

<210> 8947
<211> 1496
<212> PRT
<213> B.fragilis

<400> 8947

Leu	Tyr	Leu	Lys	Glu	Met	Asn	Pro	Arg	Leu	Leu	Ile	Pro	Leu	Phe	Cys
1				5					10						15
Met	Leu	Leu	Leu	Thr	Thr	Phe	Phe	Ser	Cys	Val	Asp	Thr	Ala	Pro	Thr
				20					25						30
Lys	Glu	Val	Gln	His	Ile	Asp	Ser	Leu	Asn	Ser	Arg	Ala	Tyr	Met	Tyr
				35				40			45				
Arg	Tyr	Arg	Asp	Leu	Asp	Ser	Ser	Cys	Lys	Ala	Ala	Ser	Gln	Ala	Tyr
				50				55			60				
Lys	Glu	Val	Ser	Met	Tyr	Ser	Gln	Gly	Lys	Ala	Glu	Ala	Ser	Asn	Asn
				65				70			75				80
Leu	Ala	Phe	Cys	Ala	Phe	Met	Arg	Met	Asp	Phe	Asp	Thr	Ala	Glu	Arg
				85				90							95
Leu	His	Lys	Gly	Val	Tyr	Asp	Leu	Thr	Lys	Asn	Glu	Leu	Glu	Leu	Leu
				100				105			110				
Ile	Ala	Asp	Ile	Gly	Leu	Met	Lys	Ile	Tyr	Gln	Arg	Thr	Ala	Met	Asn
				115				120			125				
Lys	Glu	Phe	Tyr	Asp	Tyr	Arg	Asn	Ser	Ala	Ile	Arg	Arg	Met	Lys	Arg
				130				135			140				
Ile	Asp	Glu	Glu	Asn	Asn	Leu	Phe	Val	Asp	Arg	His	Glu	Ser	Ala	Arg
				145				150			155				160
Leu	Asp	Tyr	Ala	Phe	Thr	Glu	Phe	Phe	Ile	Val	Ser	Ala	Val	Tyr	Tyr
				165				170			175				
Tyr	Tyr	Leu	Gln	Arg	Thr	Glu	Ala	Met	Ala	Ser	Leu	Asn	Glu	Ile	
				180				185			190				
Gln	Leu	Asn	Glu	Asp	Leu	Ala	Thr	Asp	Thr	Asn	Gln	Ile	Leu	Tyr	Phe
				195				200			205				
His	Tyr	Ile	Lys	Gly	Ser	Ala	Gly	Leu	Cys	Glu	Gly	Lys	Thr	Pro	Asp
				210				215			220				
Glu	Arg	Lys	Leu	Glu	Glu	Phe	Asp	Glu	Leu	Tyr	Thr	Thr	Trp	Lys	Met
				225				230			235				240
Ala	Ser	Glu	Gln	Gly	Tyr	Leu	Tyr	Phe	Glu	Gly	Asn	Gly	Leu	Gln	Gly
				245				250			255				
Leu	Thr	Asn	Leu	Met	Ala	Ser	Gln	Glu	Ser	Tyr	Glu	Leu	Phe	Leu	Asn
				260				265			270				
Arg	Arg	Ser	His	Ala	Leu	Thr	Arg	Phe	Gly	Ile	Pro	Val	Asp	Ser	Leu
				275				280			285				
Leu	Pro	Leu	Arg	Leu	Gly	Gln	Met	Ala	Leu	Glu	Arg	Phe	Arg	Lys	Tyr
				290				295			300				
Asn	Asp	Leu	Tyr	Gln	Ile	Ala	Gly	Ala	Tyr	Val	Ser	Ile	Gly	Lys	Tyr
				305				310			315				320
Leu	Asn	Ala	His	Gly	Arg	Tyr	Thr	Glu	Ala	Leu	Asp	Thr	Leu	Ala	Lys
				325				330			335				
Ala	Leu	Asp	Cys	Val	Asn	Gln	His	His	Met	Ser	Tyr	Tyr	His	Ser	Val
				340				345			350				
Ala	Asp	Thr	Leu	Asp	Lys	Leu	Gln	Val	Phe	Val	Pro	Asn	Lys	Asp	Val
				355				360			365				
Ala	Tyr	Thr	Glu	Val	Thr	Trp	Leu	Gly	Lys	Glu	Lys	Val	Lys	Thr	Val
				370				375			380				
Pro	Glu	Trp	Ile	Ser	Arg	Ile	Arg	Glu	Gln	Leu	Ser	Val	Ser	Tyr	Ala
				385				390			395				400
Cys	Leu	Gly	Met	Lys	Pro	Ala	Ser	Asp	Tyr	Asn	Arg	Asn	Val	Tyr	Leu
				405				410			415				

Asp Ile Leu Arg Tyr Thr Arg Gln Asp Lys Glu Leu Glu Ser Arg Tyr
 420 425 430
 Leu Ser Leu Glu Gln Glu Ser Arg Gln Leu Asn Val Val Leu Phe Phe
 435 440 445
 Val Ile Ile Gly Leu Ile Leu Val Thr Ala Met Phe Trp Leu Phe Asn
 450 455 460
 Lys Arg Ser Lys Val Arg Asn Arg Ile His Ile Ala Arg Leu Arg Gln
 465 470 475 480
 Thr Leu Asp Val Cys Gln Lys Ile Thr Ala Ser Ile Pro Val Asp Val
 485 490 495
 Thr Asp Glu Ser Glu Ile Val Tyr Ala Ile Ser Glu Ser Ile Gln Pro
 500 505 510
 Asp Met Glu Gln Leu Phe Gly Ala Thr Glu Ile Arg Ile Gly Ile Arg
 515 520 525
 Asn Glu Glu Thr Gly Asp Ile Glu Phe Asn Glu Glu Cys Glu Ser Glu
 530 535 540
 Gln Thr Asp Glu Pro Lys Ser Ile Gly Glu Val Gly Ile Gly Ser Val
 545 550 555 560
 Phe Asn Leu Tyr Val Pro Asp Lys Thr Glu Pro Ile Gly Ile Leu Lys
 565 570 575
 Leu Phe Thr Arg His Arg Leu Asn Lys Asp Glu Gln Ala Leu Val Lys
 580 585 590
 Val Ile Thr Pro Tyr Ile Ala Trp Ala Leu Asp Asn Gly Met Thr Phe
 595 600 605
 Ile Ser Leu Gly Asp Glu Arg Asn Lys Leu Glu Lys Gln Arg Tyr Val
 610 615 620
 Tyr Glu Gln His Ile Ala Gly Asn Lys Arg Gln Asn Leu Ile Lys Lys
 625 630 635 640
 Ser Cys Leu Ala Ile Val Asp Gly Ile Asn Pro Tyr Ile Asp Arg Ile
 645 650 655
 Ile Asn Glu Val His Lys Leu Thr Glu Lys Gly Phe Ile Asn Asn Asp
 660 665 670
 Arg Ile Lys Lys Glu Lys Tyr Gln Tyr Ile Asp Glu Leu Val Thr Thr
 675 680 685
 Ile Asn Glu Tyr Asn Asp Ile Leu Ala Leu Trp Ile Lys Met Lys Gln
 690 695 700
 Gly Ser Leu Ser Leu Asn Ile Glu Asn Phe Glu Leu Asn Glu Leu Phe
 705 710 715 720
 Glu Leu Ile Ser Lys Gly Arg Lys Ala Phe Glu Met Lys Lys Gln Arg
 725 730 735
 Leu Glu Ile Glu Pro Thr Lys Ala Leu Val Lys Ala Asp Lys Ala Leu
 740 745 750
 Thr Leu Phe Met Ile Asn Thr Leu Ala Glu Asn Ala Arg Lys Tyr Thr
 755 760 765
 Pro Glu Gly Gly Ile Val Lys Ile Tyr Ala Lys Arg Thr Asp Glu Tyr
 770 775 780
 Val Glu Ile Ser Val Glu Asp Asn Gly Arg Gly Leu Ser Thr Glu Asp
 785 790 795 800
 Ile Thr Lys Ile Ile Gly Glu Lys Val Tyr Asp Ser Gln Ser Ile Gly
 805 810 815
 Met Lys Asp Asn Pro Asp Lys Glu Glu Leu Lys Arg Ser Lys Gly Ser
 820 825 830
 Gly Phe Gly Leu Met Asn Cys Lys Gly Ile Ile Glu Lys Tyr Lys Lys
 835 840 845
 Thr Asn Asp Leu Phe Arg Ile Cys Thr Phe Asn Ile Glu Ser Thr Pro
 850 855 860
 Gly Lys Gly Ser Arg Phe Tyr Phe Arg Leu Pro Pro Gly Val Arg Lys
 865 870 875 880
 Ile Ile Gly Ile Cys Leu Cys Leu Val Gly Leu Phe Gly Phe Ser

885	890	895
Cys Gln Gly Glu Pro Met Pro Glu Lys Leu Lys Asp Ile Pro Val Asp		
900	905	910
Ser Val Thr Leu Ala Ala Glu Ala Glu Tyr Glu Arg Leu Leu Asp Glu		
915	920	925
Ala Ser Arg Phe Ala Asp Thr Val Tyr Tyr Cys Asn Val Ile Glu Asn		
930	935	940
Phe Glu Leu Ala Leu Gln Tyr Ala Asp Ser Ala Leu Asn Arg Leu Asn		
945	950	955
Ala His Tyr Lys Lys Tyr Ala Arg His Pro Gln Arg Phe Met Lys Leu		
965	970	975
Val Gly Ser Gly Ile Pro Ala Glu Leu Glu Trp Trp Val Glu Pro Tyr		
980	985	990
Asn Thr Asp Phe His Val Ile Leu Asp Val Arg Asn Glu Ala Ser Val		
995	1000	1005
Ala Phe Leu Gly Leu Lys Lys Leu Asp Ala Tyr Thr Tyr Asn Asn Val		
1010	1015	1020
Ala Tyr Thr Ala Leu Tyr Lys Leu Thr Gly Glu Asp Gln Ser Leu Glu		
1025	1030	1035
Gly Tyr Cys Arg Gln Leu Glu Arg Ser Thr Thr Asn Lys Thr Val Gly		
1045	1050	1055
Ile Ile Leu Cys Ile Leu Leu Val Ala Ser Leu Cys Gly Tyr Tyr		
1060	1065	1070
Leu Leu Tyr Val Arg Lys Arg Leu Leu Asn Arg Leu Asn Leu Glu Gln		
1075	1080	1085
Val Leu Glu Ile Asn Lys Lys Val Phe Ala Ser Ser Leu Val Arg Thr		
1090	1095	1100
Gln Glu Ser Ala Glu Ala Leu Gln Arg Glu Glu Asp Thr Leu Lys Glu		
1105	1110	1115
Ile Pro Gln Arg Ile Val Asn Glu Ser Phe Asp Ser Met Asn Glu Leu		
1125	1130	1135
Leu Thr Ile Glu Cys Leu Gly Ile Ala Val Tyr Asn Glu Met Gly His		
1140	1145	1150
Arg Leu Glu Phe Ala Ser Thr Pro Arg Met Asp Thr Pro Pro Glu Ile		
1155	1160	1165
Ile Gln Gln Cys Phe Asp Asn Gln Thr Tyr Leu Ser Asp Gly Asp Met		
1170	1175	1180
Gln Ala Leu Pro Leu Leu Val Asp Ala Gly Gly Lys His Gln Cys Val		
1185	1190	1195
Gly Val Leu Tyr Leu Glu Arg Gln Glu Asp Ser Met Gln Glu Ala Asp		
1205	1210	1215
Arg Leu Leu Phe Gln Leu Ile Ser Arg Tyr Val Gly Ile Val Val Phe		
1220	1225	1230
Asn Ala Val Val Arg Leu Ala Thr Lys Tyr Arg Asp Ile Glu Ala Ala		
1235	1240	1245
His Glu Glu Thr Arg Arg Ala Ser Trp Glu Asp Ser Met Leu His Val		
1250	1255	1260
Gln Asn Met Val Leu Asp Asn Cys Leu Ser Thr Ile Lys His Glu Thr		
1265	1270	1275
Ile Tyr Tyr Pro Asn Lys Ile Lys Gln Ile Ile Gly Arg Leu Asn Thr		
1285	1290	1295
His Ser Leu Ser Gly Glu Glu Lys Glu Cys Val Glu Thr Ile Ser		
1300	1305	1310
Glu Leu Ile Glu Tyr Tyr Lys Gly Ile Phe Arg Ile Leu Ser Ser Cys		
1315	1320	1325
Ala Ser Arg Gln Leu Glu Glu Val Thr Phe Arg Arg Ala Thr Ile Pro		
1330	1335	1340
Val Thr Asp Ile Met Ala Tyr Ala Gly Lys Tyr Phe Lys Arg Ile Ser		
1345	1350	1355
		1360

Arg Gly Val Asn Tyr Lys Ile Thr Leu Thr Ile Glu Pro Leu Glu Ala
 1365 1370 1375
 Lys Val Ile Gly Asp Ile Asn Gln Leu Arg Phe Leu Ile Glu Asn Leu
 1380 1385 1390
 Ile Asp Glu Ala Leu Ser Phe His Gln Asp Gly Glu Leu Val Leu Lys
 1395 1400 1405
 Ala Ile Met Asp Gly Glu Tyr Val Arg Phe Leu Phe Thr Asp Arg Arg
 1410 1415 1420
 Arg Glu Lys Gln Val Glu Glu Leu Asn Gln Leu Phe Tyr Pro Asn Leu
 1425 1430 1435 1440
 Ala Arg Met Thr Ser Gly Glu Lys Gly Glu Leu Arg Gly Thr Glu Tyr
 1445 1450 1455
 Leu Ile Cys Lys Gln Ile Ile Arg Asp His Asp Glu Phe Ala Gly Arg
 1460 1465 1470
 Arg Gly Cys Arg Ile Asn Ala Glu Pro Ala Gln Gly Gly Phe Thr
 1475 1480 1485
 Val Tyr Phe Thr Val Pro Lys Arg
 1490 1495

<210> 8948

<211> 329

<212> PRT

<213> B.fragilis

<400> 8948

Phe Ile Met Asn Arg Thr Leu Gln Pro Glu Ile Gln Glu Leu Val Gln
 1 5 10 15
 Phe Asn Ile Leu Pro Pro Val Arg Thr Val Met Pro Asn Gly Val Pro
 20 25 30
 Leu Thr Ile Ile Asn Ala Gly Glu Gln Asp Val Val Arg Val Asp Ile
 35 40 45
 Leu Phe Gly Gly Arg Trp Gln Gln Ser Gln Lys Leu Gln Ala Leu
 50 55 60
 Phe Ala Asn Arg Met Leu Arg Glu Gly Ser Arg Lys Tyr Thr Ala Ala
 65 70 75 80
 Glu Ile Ala Glu Lys Leu Asp Tyr Tyr Gly Ala Trp Leu Glu Leu Ser
 85 90 95
 Ser Ser Ala Glu Tyr Ala Tyr Ile Thr Leu Tyr Ser Leu Asn Lys Tyr
 100 105 110
 Phe Ala Glu Thr Leu Asp Val Leu Glu Ser Ile Ile Lys Glu Pro Leu
 115 120 125
 Phe Pro Glu Lys Glu Leu Gly Thr Val Ile Asp Ala Asn Ile Gln Gln
 130 135 140
 Tyr Gln Val Asn Ala Ser Lys Val Asp Phe Leu Ala His Arg Ser Leu
 145 150 155 160
 Leu Arg Ala Leu Tyr Gly Glu Glu His Pro Cys Gly Arg Tyr Val Glu
 165 170 175
 Glu Thr Asp Tyr His His Ile Thr Pro Ala Leu Leu Arg Glu Phe Tyr
 180 185 190
 Asp Thr Tyr Tyr His Ser Gly Asn Cys Tyr Val Tyr Leu Ser Gly Lys
 195 200 205
 Val Thr Asp Glu Ile Thr His Arg Ile Glu Ala Ala Phe Gly Thr Thr
 210 215 220
 His Phe Gly Asn His Gln Gln Val Ala Val Lys Lys Asp Phe Thr Phe
 225 230 235 240
 Val Ser Ile Pro Glu Lys Arg Leu Phe Ile Glu Arg Glu Asp Ala Met
 245 250 255
 Gln Ser Ala Val Lys Leu Gly Thr Thr Ile Met Arg Thr His Pro
 260 265 270

Asp Tyr Leu Lys Leu Arg Val Leu Ile Thr Leu Phe Gly Gly Tyr Phe
 275 280 285
 Gly Ser Arg Leu Met Ser Asn Ile Arg Glu Glu Lys Gly Tyr Thr Tyr
 290 295 300
 Gly Ile Ser Ala Gly Ile Met Phe Ile Arg Ala Thr Val Cys Trp Val
 305 310 315 320
 Ser Val Gln Lys Gln Leu Met Asn Met
 325

<210> 8949

<211> 318

<212> PRT

<213> B.fragilis

<400> 8949

Glu Ile Met Asn Ser His Gln Glu Leu Phe Gly Gly Asn Ile Pro Gln
 1 5 10 15
 Asp Val Thr Gly Lys Gln Gly Glu Asn Ala Ile Phe Ile Val Tyr Gly
 20 25 30
 Leu Lys Gln Ser Asp Asn Thr Ile Lys Gln Val Lys Asp Leu Cys Ala
 35 40 45
 Asn Phe Ser Ala Leu Ile Arg Ser Met Arg Asn Arg Phe Pro Glu Met
 50 55 60
 Gln Phe Ser Cys Thr Ile Gly Phe Gly Ala Asp Ala Trp Lys Gln Leu
 65 . 70 75 80
 Phe Pro Glu Gln Gly Asn Pro Lys Glu Leu Lys Thr Phe Glu Thr Ile
 85 90 95
 Lys Gly Ala Lys Tyr Thr Ala Val Ser Thr Pro Gly Asp Ile Leu Leu
 100 105 110
 His Ile Arg Ala Lys Gln Met Gly Leu Cys Phe Glu Phe Ala Ser Ile
 115 120 125
 Ile Asp Glu Lys Leu Lys Gly Val Val Asp Ser Ile Asp Glu Thr His
 130 135 140
 Gly Phe Arg Tyr Met Asp Gly Lys Ala Ile Ile Gly Phe Val Asp Gly
 145 150 155 160
 Thr Glu Asn Pro Ala Val Asp Glu Asn Pro Tyr His Phe Ala Val Ile
 165 170 175
 Gly Asp Glu Asp Pro Asp Phe Ile Gly Gly Ser Tyr Val Phe Val Gln
 180 185 190
 Lys Tyr Ile His Asp Met Thr Ala Trp Asn Ser Leu Pro Val Glu Ala
 195 200 205
 Gln Glu Lys Val Ile Gly Arg His Lys Tyr Asn Asp Val Glu Leu Ser
 210 215 . 220
 Asp Glu Glu Lys Pro Gln Asn Ala His Asn Ala Val Thr Asn Ile Gly
 225 230 235 240
 Asp Asp Leu Lys Ile Val Arg Ala Asn Met Pro Phe Ala Asn Thr Ser
 245 250 255
 Lys Gly Glu Tyr Gly Thr Tyr Phe Ile Gly Tyr Ala Ser Thr Phe Ser
 260 265 270
 Thr Thr His Lys Met Leu Glu Asn Met Phe Ile Gly Asp Pro Val Gly
 275 280 285
 Asn Thr Asp Arg Leu Leu Asp Phe Ser Thr Pro Ile Thr Gly Thr Leu
 290 295 300
 Phe Phe Ala Pro Ser Tyr Asp Leu Leu Ala Lys Leu Gly Glu
 305 310 315

<210> 8950

<211> 238

<212> PRT

<213> B.fragilis

<400> 8950

Thr	Asp	Met	Lys	Ile	Arg	Asn	Leu	Met	Val	Ala	Ala	Thr	Leu	Leu	Val
1				5					10				15		
Thr	Ala	Gly	Ala	Met	Ala	Gln	Asn	Gln	Asp	Cys	Ala	Phe	Phe	Phe	Pro
				20					25				30		
Asn	Gln	Glu	Gly	Glu	Gln	Ile	Thr	Arg	Asn	Cys	Tyr	Thr	Ala	Asp	Gly
					35				40			45			
Lys	Leu	Thr	Asn	Ile	Leu	Val	Tyr	Arg	Val	Asp	Gln	Ala	Tyr	Glu	Tyr
				50					55			60			
Pro	Ser	Gly	Met	Glu	Val	Val	Ala	Asn	Tyr	Thr	Phe	Thr	Asp	Ala	Thr
					65				70			75			80
Gly	Lys	Thr	Leu	Asn	Ser	Gly	Gln	Met	Val	Ala	Arg	Cys	Ser	Asp	Gly
					85				90			95			
Asn	Phe	Ser	Met	Ser	Met	Gly	Asp	Val	Ala	Thr	Phe	Pro	Thr	Ala	Leu
					100				105			110			
Asn	Met	Met	Asn	Ala	Asp	Val	Tyr	Met	Met	Gly	Asp	Leu	Met	Asn	Tyr
					115				120			125			
Pro	Asp	Ala	Phe	Ser	Asn	Pro	Met	Asn	Pro	Gly	Asp	Asp	Asp	Glu	Phe
					130				135			140			
Asp	Asp	Gly	Thr	Leu	Arg	Leu	Tyr	Gln	Lys	Gly	Asn	Lys	Asn	Asn	Arg
					145				150			155			160
Ala	Glu	Ile	Ser	Val	Phe	Asp	Arg	Glu	Phe	Val	Thr	Thr	Glu	Thr	Val
					165				170			175			
Asn	Thr	Pro	Ala	Gly	Ala	Phe	Tyr	Cys	Thr	Lys	Val	Lys	Tyr	Glu	Met
					180				185			190			
Asn	Ile	Trp	Thr	Pro	Lys	Glu	Thr	Ile	Lys	Gly	Tyr	Gly	Tyr	Glu	Trp
					195				200			205			
Tyr	Ala	Pro	Asn	Ile	Gly	Ile	Val	Arg	Ser	Glu	Gln	Tyr	Asn	Asn	Lys
					210				215			220			
Lys	Glu	Leu	Gln	Ser	Tyr	Ser	Val	Leu	Glu	Arg	Ile	Lys	Lys		
					225				230			235			

<210> 8951

<211> 344

<212> PRT

<213> B.fragilis

<400> 8951

Arg	Ile	Met	Lys	Gln	Lys	Thr	Ile	His	Ile	Glu	Asn	Leu	Ser	Ile	Gly
1					5				10			15			
Tyr	Leu	Gly	Lys	Thr	Asp	Val	Lys	Val	Val	Ala	Asp	Arg	Ile	Asn	Ala
					20				25			30			
Gly	Ile	Asn	Cys	Gly	Glu	Leu	Thr	Cys	Leu	Leu	Gly	Ala	Asn	Gly	Val
					35				40			45			
Gly	Lys	Ser	Thr	Leu	Leu	Arg	Thr	Leu	Ser	Ala	Phe	Gln	Pro	Lys	Leu
					50				55			60			
Gly	Gly	Lys	Ile	Glu	Ile	Val	Gly	Lys	Glu	Ile	Asp	Ala	Tyr	Thr	Asp
					65				70			75			80
Lys	Glu	Leu	Ser	Thr	Val	Ile	Ser	Val	Val	Leu	Thr	Glu	Lys	Cys	Asp
					85				90			95			
Ile	Arg	Asn	Met	Thr	Val	His	Glu	Leu	Val	Gly	Leu	Gly	Arg	Ser	Pro
					100				105			110			
Tyr	Thr	Gly	Phe	Trp	Gly	Thr	Leu	Arg	Gly	Glu	Asp	Lys	Glu	Val	Val
					115				120			125			
Glu	Arg	Ser	Ile	Ala	Leu	Val	Lys	Ile	Gln	Asn	Leu	Ala	His	Arg	Met
					130				135			140			
Val	His	Thr	Leu	Ser	Asp	Gly	Glu	Arg	Gln	Lys	Val	Met	Ile	Ala	Lys

145	150	155	160
Ala Leu Ala Gln Glu	Thr Pro Val Ile Phe	Leu Asp Glu Pro	Thr Ala
165	170	175	
Phe Leu Asp Phe Pro Ser Lys	Val Glu Met Met Gln	Leu Leu His	Arg
180	185	190	
Leu Ser Arg Gln Thr Asn Lys	Thr Ile Phe Leu Ser	Thr His Asp	Leu
195	200	205	
Glu Leu Ala Leu Gln Ile Ala Asp Lys	Ile Trp Leu Met	Asp Lys Met	
210	215	220	
Asn Gly Val Thr Ile Gly	Thr Pro Glu Asp	Leu Ser	Leu Ser Gly Lys
225	230	235	240
Leu Ser Ser Phe Phe Ala Arg Lys	Gly Ile Val Phe	Asp Leu Glu	Thr
245	250	255	
Gly Leu Phe Arg Val Asp Asn Glu	Tyr Thr Ser Gln	Ile Arg	Leu Val
260	265	270	
Gly His Gly Gln Lys Tyr Ala Met	Val Arg Lys Ala	Leu Gln Arg	Asn
275	280	285	
Gly Ile Leu Ala Asn Arg	Thr Val Glu Ser Asp	Thr Tyr Ile	Glu Thr
290	295	300	
Gly Asp Leu Lys Asp Gly Asn Gly	Phe Ile Leu His	Pro Gln Glu	Gly
305	310	315	320
Glu Ala Val Thr Leu Asn Ser Ile	Glu Glu Leu	Leu Glu Arg	Leu Gln
325	330	335	
Ala Gly Ser Ala Glu Arg Ala Val			
340			

<210> 8952

<211> 725

<212> PRT

<213> B.fragilis

<400> 8952

Thr Leu Met Lys	Lys Leu Met Val Ile	Leu Ile Thr Gly	Leu Leu Tyr
1	5	10	15
Met Ser Cys	Thr Asp Ser Met Glu	Val Ser Gly Asp	Ala Asp Arg Asn
20	25	30	
Asn Thr Glu Asp Val Ser Val	Arg Leu Val Ile	Thr Ile Pro Ala Ser	
35	40	45	
Thr Thr Tyr Ala Arg	Thr Arg Gly	Thr Phe Ala	Thr Thr Asp His Glu
50	55	60	
Ser Lys Ile Ser Glu	Ile Gln Val Leu Val	Phe Glu Glu	Gly Lys Tyr
65	70	75	80
Lys Tyr Arg Val Pro	Gly Ile Ser Ile Asn	Asn Thr Ser	Ser Ala Ala
85	90	95	
Ser Phe Lys Ala Leu Leu	Lys Ser Ser Ser	Pro Leu Lys	Leu Leu
100	105	110	
Ile Leu Ala Asn Ala	Thr Asp Ala Val	Ile Ala Asn Glu	Pro Ser Val
115	120	125	
Asp Asp Ser Glu Asp	Leu Val Lys	Lys Asn Ile Asn	Leu Arg Phe Asn
130	135	140	
Asn Ile Thr Ser Asp	Phe Pro Met	Tyr Gly Glu	Tyr Leu Pro Gly
145	150	155	160
Gly Leu Glu Ala Thr Val	Ile Asn Asn Ile	Thr Gly Ile	Lys Met Leu
165	170	175	
Arg Ser Ile Ala Arg Val	Asp Val Lys	Ala Thr Glu	Val Ala Asn Phe
180	185	190	
Lys Leu Ser Gly Val	Lys Ala Tyr	Arg Ala Asn	Asp His Leu Gln Ile
195	200	205	
Ile Pro Asp Glu Thr Gly	Val Val Arg	Val Thr Leu	Pro Ser Val Pro

210	215	220
Ala	Gly Ser Ser Gly Asn Val Asn Ser Ile Leu	Tyr Pro Val Pro Ala
225	230	235
Glu	Asn Leu Asn Glu Phe Ser Ala Gln Leu	Tyr Leu Pro Glu Ala Asp
	245	250
Ser	Pro Thr Pro Asp Asn Arg Val Ser Gln Ala	Thr Cys Ile Val Val
	260	265
Glu	Gly Tyr Tyr Glu Gly Ser Asp Gln Pro Gly	Tyr Arg Met Asp
	275	280
Phe	Asp Pro Asp Asn Val Glu Asn Ala Phe Gly	Gln Val Leu Arg Asn
	290	295
His	Lys Tyr Ile Phe Asn Ile Lys Lys Val	Ser Gly Pro Gly Trp Gly
	305	310
Ser	315	320
Pro	Asp Glu Ala Ala Asn Asn Arg Ser Ala His	Ile Val Ala Glu
	325	330
Val	Gln Ala Trp Asp Asp Tyr Thr Ile Asp Met	Asn Phe Asp Gly Glu
	340	345
His	His Phe Gly Val Ser Thr Arg Glu Ile Val	Leu Lys Asn Lys Ala
	355	360
Gly	Ser Ala Gly Ile Ile Asn Val Ser Thr Asp	Leu Pro Asp Tyr Thr
	370	375
Leu	Gln Trp Ala Asp Ala Ala Gly Thr Pro	Thr Gly Thr Gly Ser Gln
	385	390
Ser	395	400
Leu	Leu Ala Asn Glu Tyr Phe Thr Val Thr	Lys Ala Gln Asn Gly Ser
	405	410
Gln	415	
Leu	Leu Val Ile Thr Ala Leu Gln Ser Asn	Ser Thr Asn Asp Thr Ser
	420	425
Arg	430	435
Asn	Ile Gln Asn Phe Val Ile Thr Ala His Arg	Trp Arg Ile Leu Val
	440	445
Asn	Ile Gln Gln Lys Tyr Asp Val Ala Ala	Tyr Gln Thr Ile His Leu
	450	455
Leu	460	
Thr	Thr Phe Asn Ala Gly Leu Gly Tyr Leu	Gly Thr Asn Ile Ile Gly
	465	470
Ser	475	480
Gly	Ser Ala Glu Ala Arg Ala Thr Gly Leu	Arg Gly Ile Leu Asn
	485	490
Asn	495	
Gln	Asn Asn Asn Phe Gly Pro Thr Gly Thr	Val Glu Cys Gly Gly Tyr
	500	505
Asn	510	
Leu	Leu Ile Gly Val Asn Ala Asn Tyr Asn	Asn Leu Thr Asp Ala Leu
	515	520
Phe	525	
Ala	Ser Phe Asp Val Val Tyr Val His	Tyr Met Gly Asn Leu Leu
	530	535
Phe	540	
Gly	545	
Thr	Thr Ser Asp Ala Gln Lys Ala His Asn	Trp Val Lys Ser Lys
	550	555
Lys	560	
Asn	Arg Val Leu Ile Val Ser Tyr Asp Ala	Leu Asp Val Ser Gln
	565	570
Asn	575	
Leu	Leu Lys Glu Ile Leu Gly Gly Asn Asn	Gly Ile Ser Phe Leu
	580	585
Thr	590	
Ser	Asn Thr Gly Pro Tyr Pro Leu Ala Thr	Pro Glu Asn Gly Asn
	595	600
Ser	605	
Tyr	Phe Ser Thr Thr Gly Pro Phe Thr Ser	Ala Pro Tyr Thr Pro
	610	615
Ile	620	
Asn	Thr Asp Phe Ser Leu Arg Asn Tyr Asp	Ala Tyr His Gly Glu
	625	630
Ile	635	640
Gln	Gln Leu Asn Thr Glu Ala Ser Lys Gly	Ile Thr Pro Ile Leu Met
	645	650
Gly	655	
Pro	Ala Gly Gly Ile Val Leu Gly Ile Asp	Tyr Ser Arg Arg Ile
	660	665
Val	670	
Tyr	Tyr Trp Gly Asp Thr Asp Ile Gly Ser	Ser Ala Ser Ser Ser Thr
	675	680
	685	

Ser Thr Thr Asp Asn Arg Ile Asn Asn Asn Ser Gly Thr Ile Asn Asn
 690 695 700
 Asn Ala Ser Lys Leu Ile Ala Asn Val Phe Ala Trp Ile Ala Glu Thr
 705 710 715 720
 Val Leu Tyr Gly Glu
 725

<210> 8953

<211> 428

<212> PRT

<213> B.fragilis

<400> 8953

Gln Ile Met Lys Arg Asp Asp Leu Ile Phe Asp Ile Ile Glu Lys Glu
 1 5 10 15
 His Gln Arg Gln Leu Lys Gly Ile Glu Leu Ile Ala Ser Glu Asn Phe
 20 25 30
 Val Ser Asp Gln Val Met Glu Ala Met Gly Ser Cys Leu Thr Asn Lys
 35 40 45
 Tyr Ala Glu Gly Tyr Pro Gly Lys Arg Tyr Tyr Gly Cys Glu Val
 50 55 60
 Val Asp Gln Ser Glu Gln Ile Ala Ile Asp Arg Leu Lys Glu Ile Phe
 65 70 75 80
 Gly Ala Glu Trp Ala Asn Val Gln Pro His Ser Gly Ala Gln Ala Asn
 85 90 95
 Ala Ala Val Phe Leu Ala Val Leu Asn Pro Gly Asp Lys Phe Met Gly
 100 105 110
 Leu Asn Leu Ala His Gly Gly His Leu Ser His Gly Ser Leu Val Asn
 115 120 125
 Thr Ser Gly Ile Ile Tyr Thr Pro Cys Glu Tyr Asn Leu Lys Gln Glu
 130 135 140
 Thr Gly Arg Val Asp Tyr Asp Gln Met Glu Glu Val Ala Leu Arg Glu
 145 150 155 160
 Lys Pro Lys Met Ile Ile Gly Gly Ser Ala Tyr Ser Arg Glu Trp
 165 170 175
 Asp Tyr Lys Arg Met Arg Glu Ile Ala Asp Lys Val Gly Ala Ile Leu
 180 185 190
 Met Ile Asp Met Ala His Pro Ala Gly Leu Ile Ala Ala Gly Leu Leu
 195 200 205
 Asp Asn Pro Val Lys Tyr Ala His Ile Val Thr Ser Thr Thr His Lys
 210 215 220
 Thr Leu Arg Gly Pro Arg Gly Gly Val Ile Met Met Gly Lys Asp Phe
 225 230 235 240
 Pro Asn Pro Trp Gly Lys Lys Thr Pro Lys Gly Glu Ile Lys Met Met
 245 250 255
 Ser Gln Leu Leu Asp Ser Ala Val Phe Pro Gly Ile Gln Gly Gly Pro
 260 265 270
 Leu Glu His Val Ile Ala Ala Lys Ala Val Ala Phe Gly Glu Cys Leu
 275 280 285
 Gln Pro Glu Tyr Lys Glu Tyr Gln Lys Gln Val Gln Lys Asn Ala Ala
 290 295 300
 Val Leu Ala Gln Ala Leu Ile Asp Arg Gly Phe Thr Ile Val Ser Gly
 305 310 315 320
 Gly Thr Asp Asn His Ser Met Leu Val Asp Leu Arg Ser Lys Tyr Pro
 325 330 335
 Thr Leu Thr Gly Lys Val Ala Glu Lys Ala Leu Val Ser Ala Asp Ile
 340 345 350
 Thr Val Asn Lys Asn Met Val Pro Phe Asp Ser Arg Ser Ala Phe Gln
 355 360 365

Thr Ser Gly Ile Arg Leu Gly Thr Pro Ala Ile Thr Thr Arg Gly Ala
 370 375 380
 Lys Glu Asp Leu Met Leu Glu Ile Ala Glu Met Ile Glu Thr Val Leu
 385 390 395 400
 Ser Asn Val Glu Asn Glu Glu Val Ile Ala Gln Val Arg Ala Arg Val
 405 410 415
 Asn Lys Thr Met Glu Lys Tyr Pro Ile Phe Ala Tyr
 420 425

<210> 8954

<211> 467

<212> PRT

<213> B.fragilis

<400> 8954

Tyr Ile His Leu Asn Lys Lys Ile Met Lys Thr Ser Lys Ile Phe Met
 1 5 10 15
 Thr Thr Leu Val Ala Leu Thr Met Ala Ala Cys Ser Asn Asp Asn Asp
 20 25 30
 Trp Val Asp Gln Ser Ser Asn Pro Asp Val Ile Ala Pro Asp Ala Tyr
 35 40 45
 Ala Ser Phe Ser Ile Asn Ile Pro His Ala Ser Lys Thr Arg Ala Val
 50 55 60
 Ser Thr Asp Pro Gly Ile Ala Ala Glu Asn Thr Val Lys Ser Leu His
 65 70 75 80
 Val Phe Ile Tyr Asp Ala Glu Ser Pro Asn Thr Pro Thr Val Ala Glu
 85 90 95
 Phe Thr Val Ala Gly Gly Thr Leu Thr Gln Lys Pro Ala Gly Ser Ser
 100 105 110
 Thr Trp Met Thr Ser Gln Pro Ile Ser Thr Lys Lys Thr Asp Lys Tyr
 115 120 125
 Ile Phe Ala Gly Val Asn Leu Asn Thr Glu Ile Val Asn Tyr Ile Thr
 130 135 140
 Ser Asn Gly Leu Gly Ala Phe Ser Tyr Lys Asp Phe Thr Gln Glu Ile
 145 150 155 160
 Thr Lys Leu Ala Asp Gln Thr Asn Gly Phe Val Met Phe Asn Ser Ala
 165 170 175
 Tyr Pro Thr Leu Thr Pro Ala Ala Asp Leu Tyr Glu Lys Lys Ser Glu
 180 185 190
 Ala Glu Asn Asn His Ile Thr Ile Ser Val Asn Arg Ile Thr Ala Lys
 195 200 205
 Ala Ala Val Phe Gln Ser Gln Ser Phe Val Val Asn Gly Gly Thr
 210 215 220
 Met Thr Asp Leu Lys Phe Gly Trp Arg Asn Leu Asn Lys Lys Phe Tyr
 225 230 235 240
 Phe Ile Gln Asp Asn Arg Asp Thr Leu Ile Lys Asp Tyr Asn Trp Ala
 245 250 255
 Asn Tyr Thr Ala Glu Asp Phe Thr Arg Gly Thr Asp Ala Ile Asn Val
 260 265 270
 Tyr Ala Ser Ala Asp Val Pro Thr Ser Phe Ser Tyr Ala Thr Glu Asn
 275 280 285
 Ala Phe Gln Tyr Ile Ser Gly Thr Ser Asn Val Asp Ala Ala Thr Phe
 290 295 300
 Ile Ser Val Ser Gly Val Phe Thr Pro Thr Asn Ile Ile Ser Ala Lys
 305 310 315 320
 Lys Asn Pro Pro Thr Val Ala Ala Asp Phe Glu Ile Ile Val Asn Pro
 325 330 335
 Lys Pro Ala Asp Lys Thr Phe Phe Val Val Arg Thr Ala Asp Gly Val
 340 345 350

Ala Asn Tyr Phe Ile Asp Gly Pro Thr Ala Glu Lys Phe Ala Glu Leu
 355 360 365
 Cys Ala Ala Asn Thr Pro Gln Met Pro Ser Ile Asn Gly Ile Tyr Leu
 370 375 380
 Leu Ser Glu Asn Thr Tyr Ser Asn Gly Leu Cys Tyr Tyr His Ile Phe
 385 390 395 400
 Val Asn Gly Asp Ala Val Thr Pro Gln Ala Pro Tyr Asn Ile Tyr Arg
 405 410 415
 Asn Gln Tyr Phe Lys Ile Asn Ile Asn Ser Ile Gln Ala Pro Gly Asn
 420 425 430
 Pro Ser Asp Asn Phe Asp Arg Gly Glu Pro Ile Lys Pro Asn Ser Trp
 435 440 445
 Ile Gly Val Asp Ile Gln Ile Ile Pro Trp Glu Val Ile Glu Glu Asp
 450 455 460
 His Asp Leu
 465

<210> 8955

<211> 468

<212> PRT

<213> B.fragilis

<400> 8955

Gln Glu Ile Asp Ser Tyr Gly Gly Arg Phe Gly Ile Tyr His Val Cys
 1 5 10 15
 Leu Thr Leu Thr Ser Gln Ala Met Lys Ile Gly Arg Lys Ile Ala Leu
 20 25 30
 Phe Tyr Thr Leu Val Thr Val Leu Thr Thr Met Ala Val Ile Gly Val
 35 40 45
 Phe Tyr Leu Phe Ser Ser Arg Tyr Ile Asp Gly Leu Tyr Arg Ser Tyr
 50 55 60
 Leu Arg Glu Lys Ala Phe Leu Thr Ala Gln Lys His Trp Glu Arg Asp
 65 70 75 80
 Glu Val Asp Glu Gln Ser Tyr Gln Thr Ile Gln Arg Lys Tyr Asp Glu
 85 90 95
 Leu Leu Pro Glu Ala Lys Glu Ile Leu Asp Met Asp Ser Asp Ala
 100 105 110
 Val Val Arg Asp Thr Leu Asn Lys Tyr Leu Ser Ala Ser Gln Gln Lys
 115 120 125
 Gln Leu Leu Glu Ser Lys Glu Met Ser Ser Val Ser Phe Val Tyr Gln
 130 135 140
 Asp Met Leu Gly Ala Ala Leu Tyr Tyr Pro Asp Asn Glu Gly Asn Phe
 145 150 155 160
 Ile Val Ile Ile Met Ser His Asn Ser Tyr Gly Val Lys Ile Gln Glu
 165 170 175
 His Leu Leu Leu Ser Ala Phe Leu Val Leu Cys Ser Ser Val Leu
 180 185 190
 Ile Phe Phe Ile Gly Gln Leu Tyr Ser Thr Arg Ile Leu Ile Pro Leu
 195 200 205
 Gln His Val Leu Leu Gln Leu Lys Gln Ile Arg Gly Asn Ser Leu Asn
 210 215 220
 Arg Arg Leu Lys Thr Thr Gly Asn Lys Asp Glu Leu Asp His Leu Ile
 225 230 235 240
 Glu Thr Leu Asn Ser Met Leu Asp Arg Ile Asp Thr Ala Phe Arg Ala
 245 250 255
 Glu Lys Ser Phe Val Ser His Ala Ser His Glu Leu Asn Asn Pro Ile
 260 265 270
 Thr Ala Ile Gln Gly Glu Cys Glu Ile Ser Leu Leu Lys Glu Arg Ser
 275 280 285

Thr Asp Glu Tyr Ile Glu Ala Leu Arg Arg Ile Ala Gly Glu Ser Lys
 290 295 300
 Arg Leu Ser Asn Leu Ile Arg His Leu Leu Phe Leu Ser Arg Gln Glu
 305 310 315 320
 Glu Asp Ile Arg Lys Asn Asn Val Glu Glu Ile Arg Leu Ala Asp Leu
 325 330 335
 Leu Glu Glu Ala Gly Ala Ala Asn Pro Arg Ile Arg Leu Gln Tyr Pro
 340 345 350
 Glu Asp Ala Ala Arg Tyr Ala Val Val Ser Ala Ser Pro Tyr Leu Phe
 355 360 365
 Lys Ile Ala Leu Gln Asn Val Ile Asp Asn Ala Cys Lys Tyr Ser Gln
 370 375 380
 Gly Glu Val Leu Ile Arg Leu Tyr Lys Glu Asp Glu Arg Trp Gly Ile
 385 390 395 400
 Ala Val Lys Asp Ser Gly Ile Gly Ile Pro Ala Asp Glu Met Glu Leu
 405 410 415
 Ile Phe Gln Ser Phe Tyr Arg Gly Ser Asn Thr Arg Glu Tyr Ala Gly
 420 425 430
 Gln Gly Ile Gly Leu Ser Leu Ser Met Lys Ile Phe Ser Val Tyr Arg
 435 440 445
 Gly Lys Val Ser Ile Arg Ser Glu Glu Gly Lys Gly Thr Glu Val Arg
 450 455 460
 Val Val Phe Ala
 465

<210> 8956

<211> 312

<212> PRT

<213> B.fragilis

<400> 8956

Thr Tyr Asn Asp Met Glu Asn Arg Ser Leu Val Thr Ile Ala Glu His
 1 5 10 15
 Ser Arg Glu Lys Ile Leu Tyr Met Leu Glu Met Ala Lys Gln Phe Glu
 20 25 30
 Lys Asn Pro Asn Arg Arg Leu Leu Glu Gly Lys Val Val Ala Thr Leu
 35 40 45
 Phe Phe Glu Pro Ser Thr Arg Thr Arg Leu Ser Phe Glu Thr Ala Ala
 50 55 60
 Asn Arg Leu Gly Ala Arg Val Ile Gly Phe Ser Asp Pro Lys Ala Thr
 65 70 75 80
 Ser Ser Ser Lys Gly Glu Thr Leu Lys Asp Thr Ile Met Met Val Ser
 85 90 95
 Asn Tyr Ala Asp Val Ile Val Met Arg His Tyr Leu Glu Gly Ala Ala
 100 105 110
 Arg Tyr Ala Ser Glu Val Ala Pro Val Pro Ile Val Asn Ala Gly Asp
 115 120 125
 Gly Ala Asn Gln His Pro Ser Gln Thr Met Leu Asp Leu Tyr Ser Ile
 130 135 140
 Tyr Lys Thr Gln Gly Thr Leu Glu Asn Leu Asn Ile Tyr Leu Val Gly
 145 150 155 160
 Asp Leu Lys Tyr Gly Arg Thr Val His Ser Leu Leu Met Ala Met Arg
 165 170 175
 His Phe Asn Pro Thr Phe His Phe Ile Ala Pro Glu Glu Leu Lys Met
 180 185 190
 Pro Glu Glu Tyr Lys Ile Tyr Cys Lys Glu His Asn Ile Lys Tyr Val
 195 200 205
 Glu His Thr Asp Phe Asn Glu Glu Val Ile Lys Asp Ala Asp Ile Leu
 210 215 220

Tyr Met Thr Arg Val Gln Arg Glu Arg Phe Thr Asp Leu Met Glu Tyr
 225 230 235 240
 Glu Arg Val Lys Asn Val Tyr Ile Leu Lys Ala Lys Met Leu Glu Asn
 245 250 255
 Thr Arg Ser Asn Leu Arg Ile Leu His Pro Leu Pro Arg Val Asn Glu
 260 265 270
 Ile Ala Tyr Asp Val Asp Asp Ser Pro Lys Ala Tyr Tyr Phe Gln Gln
 275 280 285
 Ala Gln Asn Gly Leu Tyr Ala Arg Gln Ala Ile Leu Cys Asp Val Leu
 290 295 300
 Gly Ile Thr Leu Gln Asp Ile Leu
 305 310

<210> 8957

<211> 300

<212> PRT

<213> B.fragilis

<400> 8957

Lys Lys Lys Glu Met Lys Asn Ile Leu Ile Ile Gly Ala Asn Gly Phe
 1 5 10 15
 Thr Gly Arg Arg Ile Leu Asn Asp Leu Ser Val Asn Pro Ile Tyr His
 20 25 30
 Val Thr Gly Cys Ser Leu Arg Asp Asp Ile Cys Pro Gly Lys Asp Tyr
 35 40 45
 Arg Phe Val Arg Thr Asp Ile Arg Asp Glu Asn Glu Val Arg Lys Leu
 50 55 60
 Phe Lys Glu Cys Arg Pro Asp Ile Val Ile Asn Thr Ser Ala Leu Ser
 65 70 75 80
 Val Pro Asp Tyr Cys Glu Thr His His Ala Glu Ala Glu Ala Thr Asn
 85 90 95
 Val Thr Ala Val Glu Thr Ile Ala His Val Cys Glu Gln Tyr Gly Ser
 100 105 110
 Arg Phe Ile His Leu Ser Thr Asp Phe Val Phe Asp Gly Lys Ser Ile
 115 120 125
 Arg Leu Tyr Lys Glu Glu Asp Glu Ala Ile Pro Val Asn Tyr Tyr Gly
 130 135 140
 Val Thr Lys Leu Lys Ala Glu Lys Ile Ile Ala Ser Ile Cys Ser Asn
 145 150 155 160
 Tyr Ala Ile Val Arg Val Val Val Tyr Gly Lys Ala Leu Pro Gly
 165 170 175
 Gln His Gly Asn Ile Leu Gln Leu Val Ala Asn Arg Leu Arg Asn Gly
 180 185 190
 Glu Thr Ile Arg Val Val Ser Asp Gln Trp Arg Thr Pro Thr Phe Val
 195 200 205
 Gly Asp Ile Ser Val Gly Val Glu Lys Leu Met Phe His Thr Ala Asn
 210 215 220
 Gly Ile Tyr His Ile Cys Gly Ser Glu Cys Leu Thr Ile Ala Glu Ile
 225 230 235 240
 Ala Tyr Arg Val Ala Asp Phe Leu Lys Leu Asp Arg Ser Leu Ile Glu
 245 250 255
 Pro Val Thr Thr Glu Glu Met Lys Glu Ala Thr Pro Arg Pro Arg Phe
 260 265 270
 Ser Gly Leu Ser Ile Glu Lys Ala Lys Ala Glu Ile Gly Tyr Thr Pro
 275 280 285
 Arg Thr Leu Glu Glu Gly Met Glu Ala Ser Leu Phe
 290 295 300

<210> 8958

<211> 244
<212> PRT
<213> B.fragilis

<400> 8958

Asn	Ser	Met	Glu	Asp	Lys	Lys	Phe	Lys	Val	Ile	Ile	Val	Glu	Asp	Val
1			5						10				15		
Lys	Leu	Glu	Leu	Lys	Gly	Thr	Glu	Glu	Ile	Phe	Arg	His	Glu	Ile	Pro
						20			25				30		
Asn	Ala	Glu	Val	Ile	Gly	Thr	Ala	Met	Thr	Glu	Asn	Glu	Phe	Trp	Pro
						35			40			45			
Leu	Met	Glu	Thr	Gln	Leu	Pro	Asp	Met	Val	Leu	Leu	Asp	Leu	Gly	Leu
						50			55			60			
Glu	Gly	Ser	Thr	Thr	Ile	Gly	Val	Asp	Ile	Cys	Arg	Asn	Ile	Phe	Lys
						65			70			75			80
Arg	Tyr	Pro	Gly	Val	Arg	Val	Leu	Ile	Phe	Thr	Gly	Glu	Ile	Leu	Asn
						85				90			95		
Glu	Lys	Leu	Trp	Val	Asp	Val	Leu	Asn	Ala	Gly	Ala	Asp	Gly	Ile	Ile
						100			105			110			
Leu	Lys	Thr	Gly	Glu	Leu	Leu	Thr	Lys	Thr	Asp	Val	Gln	Ala	Val	Met
						115			120			125			
Asp	Gly	Lys	Lys	Leu	Val	Phe	Asn	Tyr	Pro	Ile	Leu	Glu	Lys	Ile	Val
						130			135			140			
Glu	Arg	Phe	Lys	Lys	Ser	Val	Ala	Asn	Asp	Ala	Lys	Arg	Gln	Glu	Ala
						145			150			155			160
Val	Ile	Ser	Tyr	Asp	Ile	Asp	Glu	Tyr	Asp	Glu	Arg	Phe	Leu	Arg	His
						165			170			175			
Leu	Ala	Leu	Gly	Tyr	Thr	Lys	Glu	Met	Ile	Ala	Asn	Leu	Lys	Gly	Met
						180			185			190			
Pro	Phe	Gly	Val	Lys	Ser	Leu	Glu	Lys	Arg	Gln	Asn	Asp	Leu	Ile	Gly
						195			200			205			
Arg	Leu	Phe	Pro	Gln	Gly	Glu	Arg	Val	Gly	Val	Asn	Ala	Thr	Arg	Leu
						210			215			220			
Val	Val	Arg	Ala	Leu	Glu	Leu	Arg	Ile	Ile	Asp	Leu	Asp	Asn	Leu	Glu
						225			230			235			240
Ala	Asp	Glu	Glu												

<210> 8959
<211> 181
<212> PRT
<213> B.fragilis

<400> 8959

His	Arg	Thr	Asp	Met	Lys	Leu	Ile	Phe	Phe	Leu	Leu	Leu	Leu	Leu	Leu
1					5			10				15			
Ser	Thr	Ala	Ser	Leu	Ser	Ala	Gln	Ser	Glu	Gln	Pro	Ser	Asp	Ser	Ile
						20			25			30			
Arg	His	Leu	Pro	Ser	Thr	Val	Lys	Gln	Tyr	Gly	Asp	Phe	Leu	Ile	Asp
						35			40			45			
Met	Gly	Leu	Phe	Ile	Ala	Ala	Pro	Pro	Lys	Leu	Pro	Lys	Tyr	Lys	Phe
						50			55			60			
Glu	Leu	Pro	Asp	Ala	Ser	Lys	Asp	Tyr	Asn	Arg	Ile	Phe	Ser	Leu	Asn
						65			70			75			80
Pro	Asp	Val	Ile	Met	Thr	Gln	Gly	Leu	Ser	Asn	Val	Phe	Thr	Pro	Ser
						85			90			95			
Leu	Ser	Tyr	Gly	Phe	Gly	Trp	Gly	Gly	His	Asp	Phe	Phe	Ser	Ser	Pro
						100			105			110			
Gln	Gln	Leu	Gln	Met	Gly	Ser	Phe	Lys	Leu	Lys	Asn	Gly	Met	Arg	Leu

115	120	125
Asn Thr Tyr Gly Glu Tyr Asn Ala Asp Gly Lys Lys Val Pro Asn Pro		
130	135	140
Ala Ala Met Pro Trp Glu Lys Asn Asn Phe Lys Gly Ala Phe Glu Met		
145	150	155
Lys Ser Ser Asp Gly Asn Phe Gly Ile Arg Ile Glu Val Gln Gln Gly		
165	170	175
Arg Asn Tyr Pro Tyr		
180		

<210> 8960

<211> 69

<212> PRT

<213> B.fragilis

<400> 8960

Leu Arg Leu Phe Ile Arg Thr Cys Cys Pro Ile Ile Arg Leu Ser Ile			
1	5	10	15
Thr Asn Asp Ser Ile Asn Leu Ser Asp Glu Thr Thr Asp Asn Thr Ser			
20	25	30	
Tyr Ala Ala Tyr Ser Arg Ile Tyr Phe Cys Leu Phe Ser Ala Glu Ser			
35	40	45	
Val Val Gly Leu Gly Phe His Ser His Arg Phe Gly Met Glu His Thr			
50	55	60	
Leu Gly Arg Asn Gly			
65			

<210> 8961

<211> 75

<212> PRT

<213> B.fragilis

<400> 8961

Gly Leu Gly Leu Phe Ser Gln Ile Gln Arg Trp Thr Phe Ser Arg Lys			
1	5	10	15
Asn Pro Trp Arg Leu Met Asn Gly Val Asn Lys Asp Phe Ser Ile Ile			
20	25	30	
Thr Ser His Met Asn Leu Leu Ser Asn Tyr Ala Thr Ile Gly Asn Val			
35	40	45	
Cys Lys Asp Val Tyr Leu Phe Ser Lys Leu Arg His Lys Leu Phe Thr			
50	55	60	
Ser Ser Cys Cys Arg Leu Lys Lys Trp Ile Arg			
65	70	75	

<210> 8962

<211> 72

<212> PRT

<213> B.fragilis

<400> 8962

Gln Glu Pro Cys Phe Ser His Leu His Thr Ile Cys Leu Leu Asn Ser			
1	5	10	15
Glu Ser Asn Ser Tyr Ser Pro Tyr Ser Thr Val Ser Ala Ile Gln Ala			
20	25	30	
Lys Thr Leu Ala Met Ser Leu Asp Ala Leu Leu Leu Met Val Pro Glu			
35	40	45	
Leu Leu Phe Ile Arg Leu Ser Val Val Asp Val Glu Leu Asp Ala Glu			
50	55	60	
Leu Pro Ile Ser Val Ser Pro Gln			

65

70

<210> 8963

<211> 318

<212> PRT

<213> B.fragilis

<400> 8963

Gly Arg Arg Leu Asn Ile Phe Ser Leu Lys Lys Pro Val Lys Phe Asn
 1 5 10 15
 Lys Gln Phe Val Thr Asp Ala Asp Ala Trp Trp Lys Ala Asp Asn Gly
 20 25 30
 Asn Phe Gly Ile Ile Leu Pro Pro Thr Gly Ser Leu Pro Ala Val Gly
 35 40 45
 Ser Pro Met Ser Pro Trp Ser Trp Asp Phe Pro Gly Gly Ser Gly Ser
 50 55 60
 Pro Leu Arg Ile Ser Asp Tyr Ala Gly Tyr Asn Pro Lys Ala Pro His
 65 70 75 80
 Leu Phe Ser Met His Pro Asp Pro Gly Leu Tyr Pro Asn Ser Gln Phe
 85 90 95
 Arg Cys Ser Ile Leu Leu Arg Gln Asn Ala Glu Ile Ser Ile Asn Asn
 100 105 110
 Ile Ala Asp Ile Ser Arg Ala Tyr Met Gly Val Val Val Arg His Gln
 115 120 125
 Ala Asn Gly Glu Leu Arg Phe Arg Thr Leu Asn Arg Ser Val Met Glu
 130 135 140
 Met Gln Gln Gln Glu Tyr Ala Val Val Leu Asp Val Pro Asn Trp Pro
 145 150 155 160
 Asp Gly Lys Val Asp Val Tyr Met Val Ala Ser Tyr Ala Glu Ala Ser
 165 170 175
 Glu Gln Ser Tyr Ser Ser Ile Asn Val Thr Leu Phe Ser Met Asn Gln
 180 185 190
 Gly Pro Leu Glu Thr Ala Tyr Met Val Lys Thr Leu Ala Lys Pro Val
 195 200 205
 Pro Asn Ser Phe Lys Phe Asp Tyr Lys Val Val Asn Asp Phe Ala Asn
 210 215 220
 Glu Tyr His Leu Glu Cys Thr Phe Thr Ser Ile Lys Gly Ala Trp Glu
 225 230 235 240
 Lys Ala Arg Phe Ser Val Phe Leu Glu Ser Asp Pro Ile Gly Ala Phe
 245 250 255
 Leu Gly Gly Met Gly Glu Ser Leu Ser Pro Ala Pro Ile Gly Glu Met
 260 265 270
 Leu Ser Gln Gly Glu Ser Tyr Thr Phe Asn Ser Gln Ser Phe Thr Arg
 275 280 285
 Val Gln Thr Ser Gln Asn Asn Tyr Val Asn Tyr Thr Ala Arg Tyr Leu
 290 295 300
 Gly Asp Asn Tyr Gln Ser Gly Ser Ile Phe Phe Arg Ala Lys
 305 310 315

<210> 8964

<211> 447

<212> PRT

<213> B.fragilis

<400> 8964

Lys Asn Asn Arg Arg Ile Trp Gly Ile Gln Ser Phe Thr Gly Met Lys
 1 5 10 15
 Thr Glu Asp Ile Ala Ile Ser Ile Thr Gly Tyr Ser Tyr Ser Asn Ile
 20 25 30

Lys Glu Thr Ile Pro Asp Gly Val Asp Lys Glu Glu Ile Ala Ala Val
 35 40 45
 Tyr Glu Glu Ile Ile Asp Glu Tyr Leu Gln Lys Gly Ile Pro Arg Glu
 50 55 60
 Ile Pro Ala Leu Ile Asn Val Ser Gly Ile Pro Gly Ala Gly Lys Ser
 65 70 75 80
 Thr Phe Cys Lys Lys Leu Leu Ala Met Pro Glu Asn Ser Ser Ala Ile
 85 90 95
 Tyr Ile Gly Phe Asp Ala Ile Met Glu Asn Glu Arg Leu Pro Tyr Ile
 100 105 110
 Arg Glu Glu Val Asn His Ala Glu Glu Ala Phe Lys Arg Trp Glu Leu
 115 120 125
 Ser Ala Arg Ile Ala Gly Tyr Glu Leu Leu Lys Arg Ala Ile Glu Asn
 130 135 140
 Lys Tyr Leu Ile Ile Phe Asp His Ser Ser Ala Leu Pro Gln His Ile
 145 150 155 160
 Asp Leu Phe Asn Leu Leu Ser Glu Gly Tyr Glu Val His Phe Asn
 165 170 175
 Phe Ile Phe Ile Pro Glu Glu Ala Arg Arg Arg Ala Lys Asn Arg
 180 185 190
 Lys Arg Tyr Ile Pro Pro Tyr Tyr Ile Glu Glu Arg Ser Lys Thr Leu
 195 200 205
 Gln Tyr Leu Leu Pro Glu Tyr Lys Arg Ile Cys Thr Thr Phe Lys Gln
 210 215 220
 Ile Glu Pro Met Arg Thr Arg Leu Ile Ile Ala Arg His Gly Asn Thr
 225 230 235 240
 Phe Arg Pro Glu Glu Thr Pro Thr Arg Val Gly Ala Lys Thr Asp Leu
 245 250 255
 Pro Leu Val Glu Glu Phe Lys Gly Arg Ser Ile Gly Arg Tyr Leu Lys
 260 265 270
 Glu His Asp Met Ile Pro Asp Val Ile Tyr Ala Ala Pro Leu Leu Arg
 275 280 285
 Thr Met Gln Thr Ala Arg Leu Ala Val Gln Thr Ile Gly Leu Asp Ser
 290 295 300
 Asp Ile Ser Pro Leu Asn Ala Phe Val Glu Ile Asp Tyr Gly Val Asp
 305 310 315 320
 Glu Asn Lys Thr Glu Glu Glu Val Arg Leu Arg Leu Gly Asn Gly Asn
 325 330 335
 Ile Glu Lys Gly Lys Lys Ile Ile Glu Asp Trp Asp Lys Asn Ala Val
 340 345 350
 Val Pro Asp Gly Trp Lys Val Asp Pro Asp Gln Ile Ile His Thr Trp
 355 360 365
 Leu Asp Phe Ala Glu Lys Thr Val Ile Pro His Gln Thr Thr Leu Leu
 370 375 380
 Val Thr Ser Asn Gly Ile Ile Arg Phe Ala Pro Tyr Leu Thr Gly Asp
 385 390 395 400
 Phe Glu Lys Phe Ala Gln Glu His Lys Ile Lys Val Ala Pro Gly Gly
 405 410 415
 Leu Cys Ile Phe Asp Lys Asn Asp Gly Asp Ser Phe Trp Thr Cys Ser
 420 425 430
 Ala Trp Asn Val Lys Pro Tyr Glu Leu Tyr Ala Asp Ser His Tyr
 435 440 445

<210> 8965

<211> 451

<212> PRT

<213> B.fragilis

<400> 8965

Lys Trp Leu Arg Glu Asp Phe Val Phe Leu Ile Lys Thr Met Val Ile
 1 5 10 15
 His Ser Gly Leu Ala Leu Pro Gly Met Ser Ser Leu Met Asn Tyr Met
 20 25 30
 Gln Ile Ala Thr Thr Glu Asn Thr Ile Tyr Thr Ser Pro Asp Ala Ser
 35 40 45
 Lys Ile Phe Cys Tyr Thr Pro Ser Ile Ile Val Thr Pro Thr Gly Arg
 50 55 60
 Leu Ile Val Ser Phe Asp Leu Gly Gly Glu Val Lys Ser Ile Glu
 65 70 75 80
 Gly His Lys Ser Ser Arg Ala Gly Gly Ser Arg Phe Gly Gln Gly Lys
 85 90 95
 Ile Phe Ile Ser Asp Asp Asn Gly Gln Lys Trp Thr Phe Val Gln Asn
 100 105 110
 Phe Pro Phe Trp His Ala Arg Leu Phe Thr Ile Gly Asn Ser Ile Tyr
 115 120 125
 Leu Ile Gly His Ala Gly Asp Ile Cys Ile Met Lys Ser Glu Asp Asn
 130 135 140
 Gly Glu Ser Trp Ser Asp Thr Tyr Phe Leu Thr His Gly Glu Lys Trp
 145 150 155 160
 His Ser Ser Ala Cys Asn Val Leu Phe Ser Asn Gly Asn Val Tyr Leu
 165 170 175
 Ala Met Glu Gln Arg Cys Arg Leu Asn Glu Val Thr Gly Trp Asp Val
 180 185 190
 Ala Gly Leu Ser Pro Thr Leu Phe Arg Ala Cys Val Glu Asp Asn Leu
 195 200 205
 Cys Leu Ala Ser Ser Trp Ser Arg Ser Glu Lys Phe Ile Tyr Lys Glu
 210 215 220
 Val Phe Asp Gly Ala Lys Leu Asp Phe Phe Gly Ile Pro Phe Tyr Asp
 225 230 235 240
 Cys Glu Thr Asn Lys Pro Lys Glu Ile Ala Thr Gly Ile Asn Asn Ala
 245 250 255
 Pro Leu Gly Trp Leu Glu Ala Asn Val Val Lys Phe Val Asp Lys Asp
 260 265 270
 His Ile Trp His Thr Asp Leu Lys Glu Val Phe His Leu Phe Leu Arg
 275 280 285
 Ala His Thr Gly Gly Val Asn Tyr Ala His Leu Phe Lys Ile Glu Ile
 290 295 300
 Gln Asp Asp Gln Ser Met Ile Pro Ser Leu Glu His Thr Pro Ser Gly
 305 310 315 320
 Gln Lys Ile Ser Tyr Ile Pro Phe Pro Gly Gly His Leu Lys Phe Phe
 325 330 335
 Ile Ile Tyr Asp Glu Leu Thr Arg Phe Tyr Trp Leu Val Ser Asn Gln
 340 345 350
 Ala Thr Asp Ser Met Arg Arg Val Ser Ser Leu Ser Asn Ile Lys Arg
 355 360 365
 Tyr Gly Leu Pro Asn Asn Glu Arg His Arg Leu Gln Leu His Phe Ser
 370 375 380
 Arg Asn Cys Val Asp Trp Cys Phe Val Gly Met Val Ala Cys Ser Thr
 385 390 395 400
 Asn Glu Leu Tyr Ser Arg Asn Tyr Pro Ser Ala Val Ile Lys Gly Asp
 405 410 415
 Asp Leu His Leu Val Cys Arg Ser Ala Asp Glu His Ala Leu Asn Pro
 420 425 430
 Gln Tyr Asn Asn Met Ile Thr His His Ile Val Ser Asn Phe Arg Gln
 435 440 445
 Leu Ile Tyr
 450

<210> 8966
<211> 706
<212> PRT
<213> B.fragilis

<400> 8966

Lys	Met	Lys	Arg	Ile	Tyr	Leu	Thr	Phe	Val	Phe	Ala	Gly	Ala	Val	Cys
1				5				10						15	
Phe	Gln	Val	Ala	Ala	Gln	Asn	Ala	Asp	Glu	Asp	Arg	Ile	Leu	Ser	Ala
				20				25				30			
Asp	Ser	Leu	Ile	Thr	Met	Asp	Gly	Arg	Leu	Asp	Ser	Leu	Tyr	Arg	Ser
				35				40			45				
Leu	Pro	Glu	Val	Met	Val	Val	Gly	Glu	Arg	Pro	Val	Val	Lys	Ala	Met
				50				55			60				
Gln	Gly	Lys	Leu	Val	Tyr	Asp	Leu	Pro	Arg	Leu	Ile	Gln	Asn	Phe	Ala
				65				70			75			80	
Val	Asp	Asn	Ala	Tyr	Asp	Ala	Ile	Lys	Glu	Leu	Pro	Gly	Val	Ser	Glu
				85				90			95				
Met	Asn	Asp	Asn	Leu	Thr	Leu	Gly	Gly	Lys	Ser	Val	Thr	Val	Val	Leu
				100				105			110				
Asp	Gly	Lys	Val	Thr	Thr	Met	Thr	Gln	Glu	Gln	Leu	Asn	Thr	Leu	Leu
				115				120			125				
Lys	Ser	Ile	Pro	Ala	Gly	Arg	Ile	Glu	Lys	Ala	Glu	Val	Met	Tyr	Ser
				130				135			140				
Ala	Pro	Ala	Arg	Tyr	Gln	Val	Arg	Gly	Ala	Met	Ile	Asn	Ile	Cys	Leu
				145				150			155			160	
Lys	Gln	Gly	Asp	Ser	Gly	Lys	Ser	Thr	Leu	Gln	Gly	Glu	Phe	Phe	Ser
								165			170			175	
Asp	Tyr	Arg	Gln	Lys	His	Tyr	Glu	Tyr	Leu	Thr	Glu	Arg	Ala	Ser	Leu
								180			185			190	
Leu	Tyr	Ser	Gly	His	Lys	Phe	Ser	Ala	Asp	Phe	Leu	Tyr	Ser	Tyr	Ser
								195			200			205	
His	Gly	Arg	Asn	Tyr	Phe	Leu	Thr	Asp	Lys	Glu	Ala	Leu	His	Ala	Leu
								210			215			220	
Ser	Asp	Gly	Thr	Ile	His	Pro	Ile	Ser	Thr	Asn	Glu	Ser	Gln	Arg	Ser
								225			230			240	
Arg	Ser	Asn	Arg	His	Asn	Leu	Arg	Leu	Ala	Gly	Asp	Tyr	Val	Phe	Ala
								245			250			255	
Ala	Asn	His	Gln	Leu	Ser	Val	Thr	Tyr	Asn	Ala	Gln	Phe	Val	Asn	Gly
								260			265			270	
Phe	Asn	Leu	Ser	Thr	Val	Asp	Gly	Thr	Gln	Ile	Ser	Asn	Ala	Arg	Thr
								275			280			285	
Arg	Met	Thr	Asp	Gln	Leu	His	Asn	Ala	Arg	Leu	Asp	Tyr	His	Met	Pro
								290			295			300	
Phe	Gly	Trp	Lys	Ala	Gly	Val	Glu	Tyr	Thr	Tyr	Tyr	His	Ser	Pro	Ser
								305			310			315	
Ser	Gln	Leu	Leu	His	Ser	Arg	Met	Gly	Ser	Asp	Glu	Leu	Asp	Phe	Arg
								325			330			335	
Val	Lys	Asp	Ser	Gln	Arg	Ile	Asn	Arg	Trp	Lys	Leu	Phe	Leu	Ser	Gly
								340			345			350	
Glu	His	Asp	Leu	Gly	Asn	Gly	Trp	Gly	Met	Asn	Tyr	Gly	Ala	Val	Tyr
								355			360			365	
Thr	Thr	Ser	Leu	Asp	Asn	Ser	His	Gln	Tyr	Tyr	His	Asp	Pro	Glu	Thr
								370			375			380	
Asp	Glu	Ile	Ile	Ser	Gly	Asn	Ser	Asn	Met	Lys	Ser	Arg	Arg	Arg	Glu
								385			390			395	
Gln	Thr	Leu	Asn	Phe	Tyr	Ala	Gly	Phe	Asn	Lys	Ala	Phe	Gly	Asp	Lys
								405			410			415	
Leu	Ser	Leu	Asp	Ala	Ser	Leu	Ala	Ala	Glu	Gln	Phe	His	Thr	Thr	Val

420	425	430
Trp Asn Glu Trp Ser Leu Tyr Pro Thr Phe Asn Ile Asn	Tyr Ala Pro	
435	440	445
Ala Pro Gly Asn Val Trp Gln Leu Ser Leu Ser Ser Asp Lys	Ser Tyr	
450	455	460
Pro Asp Tyr Trp Ala Thr Gln Asp Ala Val Ser Tyr Met	Gly Gly	
465	470	475
Tyr Ser Glu Ile His Gly Asn Pro Tyr Leu Lys Pro Glu Ile	Asn Tyr	
485	490	495
Gln Leu Gln Leu Thr Tyr Val Leu Asn Ser Lys Tyr Met	Phe Asn Ala	
500	505	510
Trp Tyr Ser His Thr Lys Asp Asn Ala Thr Gln Thr Leu	Tyr Gln Ser	
515	520	525
Pro Glu Arg Leu Val Glu Ile Tyr Lys Tyr Phe Asn Phe	Asp Phe Glu	
530	535	540
Gln Gln Ala Gly Val Gln Ala Val Val Pro Phe Ala Ile	Gly Arg Trp	
545	550	555
Leu Lys Ser Arg Phe Thr Leu Thr Gly Val Tyr Asp Arg	Gln Lys Asp	
565	570	575
Ser Asp Phe Trp Asp Ile Pro Phe Asp Arg Lys Ala Tyr	Tyr Ala Met	
580	585	590
Leu Asn Met Asn His Thr Val Thr Leu Phe Ser His Pro	Asp Ile Lys	
595	600	605
Leu Ile Val Ser Gly Met Ile Arg Ser Lys Ala Ile Gln	Gly Ile Tyr	
610	615	620
Asp Leu Pro Ala Ser Gly Asn Leu Asp Ile Ala Leu Arg	Tyr Gly Phe	
625	630	635
Ala Asn Gly Lys Ala Leu Leu Thr Leu Arg Cys Asn Asp	Leu Phe Glu	
645	650	655
Thr Gly Gln Ile Ser Pro Arg Ile Cys Tyr Val Met Gln	Asn Val Thr	
660	665	670
Asn His Tyr Ser Ala Phe Arg Glu Phe Gly Val Ser Phe	Thr Tyr Lys	
675	680	685
Phe Gly Gly Tyr Lys Glu Lys Lys Arg Glu Gly Val Asp	Thr Ser Arg	
690	695	700
Phe Lys		
705		

<210> 8967

<211> 160

<212> PRT

<213> B.fragilis

<400> 8967

Lys Lys Lys Arg Ser Met Ser Val Ile Phe Lys Thr Val	Lys Arg Pro		
1	5	10	15
Ser Asp Pro Arg Val Glu Asn Ser Pro Lys Arg Tyr Tyr	Pro Gln Leu		
20	25	30	
Ile Thr Leu Gly Arg Ser Val Asp Leu Lys Phe Ile Ala	Gln Lys Ile		
35	40	45	
Gln Asp Arg Ser Ser Leu Ser Val Gly Asp Ile Lys Ser	Thr Ile Gln		
50	55	60	
Asn Phe Val Glu Lys Leu Lys Glu Gln Leu Leu Glu	Gly Lys Ala Val		
65	70	75	80
Asn Ile Glu Gly Leu Gly Val Phe Met Leu Ala Ala	Lys Ser Lys Gly		
85	90	95	
Ser Glu Lys Gln Glu Asp Ile Thr Ala Lys Ser Val Asp	Ser Val Arg		
100	105	110	
Ile Tyr Phe Gln Ala Asn Lys Glu Leu Lys Ile Thr	Lys Thr Ala Thr		

115	120	125
Arg Ala Gly Glu Lys Leu Asp Leu Ile Ser Leu Asp Asp Tyr Leu Lys		
130	135	140
Gly Thr Ala Asp Gly Gly Asn Gly Asp Ile Val Asp Asp Pro Thr Ala		
145	150	155
		160

<210> 8968

<211> 233

<212> PRT

<213> B.fragilis

<400> 8968

Trp Ser Ile Leu Lys Asn Ala Arg Thr Met Ser Leu Ser Asn Leu Leu		
1	5	10
Ile Ile Phe Ser Ser Ser Phe Met Ala Leu Phe Pro Val Val Asn Pro		
20	25	30
Leu Gly Asn Gly Phe Val Val Asn Gly Phe Phe Thr Asp Leu Asp Pro		
35	40	45
Lys Gln Arg Lys Thr Ala Ile Arg Lys Leu Ile Leu Asn Phe Ile Ile		
50	55	60
Ile Gly Val Gly Thr Leu Val Ile Gly His Leu Phe Leu Leu Met Phe		
65	70	75
Gly Leu Ala Ile Pro Val Ile Gln Leu Gly Gly Ile Leu Ile Cys		
85	90	95
Lys Thr Ala Met Glu Leu Leu Gly Asp Ser Asn Ser Pro Asp Gln Glu		
100	105	110
Glu Ser Asn Arg Asn Met Asp Ser Leu Lys Trp Lys Asn Ile Glu Gln		
115	120	125
Lys Ile Phe Tyr Pro Ile Thr Phe Pro Ile Ser Ile Gly Pro Gly Ser		
130	135	140
Ile Ser Val Ile Phe Thr Leu Met Ala Ser Ala Ser Val Lys Gly Lys		
145	150	155
Leu Leu Gln Thr Gly Ile Asn Tyr Phe Val Ile Ala Leu Val Ile Val		
165	170	175
Cys Met Ala Ala Ile Leu Tyr Ile Phe Leu Ser Gln Gly Gln Arg Ile		
180	185	190
Ile Gln Lys Leu Gly Pro Val Gly Asn Gln Ile Ile Asn Lys Leu Val		
195	200	205
Ala Phe Phe Thr Phe Cys Ile Gly Ile Gln Ile Ser Val Thr Gly Ile		
210	215	220
Ser Gln Ile Phe His Leu Ser Ile Leu		
225	230	

<210> 8969

<211> 536

<212> PRT

<213> B.fragilis

<400> 8969

Gln Gln Gln Arg Leu Thr Ile Ile Phe Ala Cys Met Lys Leu Pro Ile		
1	5	10
Lys His Ile Ala Ile Leu Val Ile Ala Ser Leu Met Ala Ile Phe Ala		
20	25	30
Tyr Gln Ala Tyr Trp Leu Val Ser Met Tyr His Thr Met Lys Ser Asp		
35	40	45
Met Glu His Ser Ile Ile Glu Ala Met Arg Thr Ser Asp Tyr Asn Glu		
50	55	60
Met Met Leu Arg Ile Glu Arg Met Arg Arg Asp Asp Gln Asp His Gly		
65	70	75
		80

Glu Ile Ser Val Ser Ala Gly Tyr Asn Asp Glu Gly Gly Thr Leu Val
 85 90 95
 Arg Ser Ser Thr Met Val His Lys Glu Lys Ile Pro Gly Ser Thr Gly
 100 105 110
 Ile Gln Gln Asp Ser Ile Leu Lys Thr Glu Arg Lys Leu Asp Thr Leu
 115 120 125
 Ile Val Val Arg Asn Asp Gln Lys Glu Ile Lys Val Val Pro Gln Asp
 130 135 140
 Ser Thr Ala Gln Glu Val Lys Ala Ala Met Leu Gln Thr Lys Gly Gly
 145 150 155 160
 Leu Asp Ile Leu Leu Lys Asp Gln Asn Thr Met Leu Glu Leu Ala Thr
 165 170 175
 Tyr Phe Gln Arg Gly Leu His Ser Gly Leu Asp Val Ile Met Asp Pro
 180 185 190
 Asp Phe Gln Ser Tyr Asp Ser Leu Leu Thr Leu Ser Leu Gln Glu Arg
 195 200 205
 Gly Ile Ser Leu Pro Tyr Arg Ile Glu Tyr Leu His Phe Gly Asn Thr
 210 215 220
 Pro Asp Ser Ser Leu Leu Phe Thr Asp Thr Leu Gly Met Gly Gly Thr
 225 230 235 240
 Ala Asn Tyr Ile Pro Gly Pro Asp Ala His Thr Tyr Asp Tyr Thr Phe
 245 250 255
 Asp Ile His Ser His Ser Leu Tyr Arg Leu Arg Met Asp Ser Val Ala
 260 265 270
 Gly Val Ile Val His Gln Met Ala Gly Ile Leu Ile Thr Ser Phe Ile
 275 280 285
 Ile Leu Leu Ile Leu Gly Phe Ser Phe Trp Phe Leu Ile Arg Thr Leu
 290 295 300
 Leu Lys Gln Lys Thr Leu Glu Glu Met Lys Ser Asp Phe Thr Asn Asn
 305 310 315 320
 Ile Thr His Glu Leu Lys Thr Pro Ile Ala Val Ala Tyr Ala Ala Asn
 325 330 335
 Asp Ala Leu Leu Asn Phe Gly Gln Ala Asp Glu Lys Ala Lys Arg Asp
 340 345 350
 Lys Tyr Leu Ser Ile Ser Gln Glu Gln Leu Gln Arg Leu Ser Gly Leu
 355 360 365
 Val Glu Gln Ile Leu Thr Met Ser Met Glu Gln Arg Lys Thr Phe Arg
 370 375 380
 Leu Arg Pro Glu Glu Ile Thr Leu Ala Thr Leu Leu Glu Ser Leu Thr
 385 390 395 400
 Glu Gln His Lys Leu Lys Ala Gln Asn Pro Ile Asp Ile Asp Tyr Arg
 405 410 415
 Val Glu Pro Ala Asn Leu Thr Val Phe Ala Asp Arg Thr His Phe Ser
 420 425 430
 Asn Ile Leu Ser Asn Leu Ile Asp Asn Ala Val Lys Tyr Ser Pro Gly
 435 440 445
 Lys Ala Val Ile Arg Ile His Cys Arg Glu Thr Ala Asp Asn Gly Lys
 450 455 460
 Val Glu Ile Ser Val Ser Asp Glu Gly Thr Gly Ile Ala Gln Glu Lys
 465 470 475 480
 Gln Lys His Ile Phe Asp Lys Phe Tyr Arg Val Pro Thr Gly Asn Leu
 485 490 495
 His Asn Val Lys Gly Tyr Gly Leu Gly Leu Tyr Tyr Val Lys Thr Met
 500 505 510
 Ile Glu Lys His Gly Gly Thr Val Cys Val Lys Ser Glu Pro Gly His
 515 520 525
 Gly Ser Thr Phe Thr Ile Thr Leu
 530 535

<210> 8970
<211> 135
<212> PRT
<213> B.fragilis

<400> 8970
Tyr Pro Gly Arg Glu Arg Val His Val Trp Asp Phe Gly Arg Asn His
1 5 10 15
Val Tyr Pro Gly Asn Gly Leu Leu Gly Ile Ser Thr Glu Thr Thr Asn
20 25 30
Glu Tyr Val Glu Pro Leu Ile Gln Glu Val Tyr Lys Glu Ile Asp Lys
35 40 45
Leu Gln Asn Asp Lys Val Thr Pro Glu Glu Leu Ala Met Val Arg Asn
50 55 60
Tyr Met Leu Gly Glu Met Cys Arg Asn Tyr Glu Ser Pro Phe Ser Leu
65 70 75 80
Ala Asp Ala Trp Met Phe Ile Leu Thr Ser Gly Leu Asp Asp Asp Tyr
85 90 95
Phe Ala Arg Ser Leu Gln Ala Val Lys Glu Val Thr Pro Glu Glu Ile
100 105 110
Arg Glu Leu Ala Gly Arg Tyr Leu Cys Lys Glu Ser Leu Lys Glu Val
115 120 125
Ile Ala Gly Lys Lys Leu Thr
130 135

<210> 8971
<211> 107
<212> PRT
<213> B.fragilis

<400> 8971
Lys Leu Pro Gly Ser Ala Leu Cys Asn Phe Leu Lys Tyr Thr Ser Met
1 5 10 15
Phe Ser Ile Ile Ser Ile Met Phe Leu Gly Ile Gly Ile Gly Tyr Leu
20 25 30
Leu Arg Asn Leu Lys Phe Leu Glu Lys Val Glu Lys Ser Thr Ser Leu
35 40 45
Thr Ile Phe Leu Leu Phe Val Leu Gly Leu Ser Ile Gly Ser Asn
50 55 60
Ser Leu Ile Val Asn Asn Leu Gly Lys Phe Gly Trp Gln Ala Ile Val
65 70 75 80
Leu Ala Thr Ser Ser Ile Leu Gly Ser Met Leu Ala Ser Phe Leu Val
85 90 95
Leu Arg Leu Phe Phe Lys Lys Gly Gly Lys Ser
100 105

<210> 8972
<211> 570
<212> PRT
<213> B.fragilis

<400> 8972
Leu Leu Ile Leu Gln Leu His Phe Lys Asn Leu Lys Thr Pro Asp Met
1 5 10 15
Lys Ser Asp Ile Glu Ile Ala Arg Ser Val Glu Leu Lys Lys Ile Lys
20 25 30
Gln Val Ala Glu Ser Ile Gly Ile Pro Arg Asp Glu Val Glu Asn Tyr
35 40 45
Gly Arg Tyr Ile Ala Lys Ile Pro Glu Tyr Leu Ile Asp Glu Glu Lys

50	55	60
Val Lys Lys Ser Asn Leu Ile Leu Val Thr Ala Ile Thr Ala Thr Lys		
65	70	75
Ala Gly Ile Gly Lys Thr Thr Val Ser Ile Gly Leu Ala Leu Gly Leu		80
85	90	95
Asn Lys Ile Gly Lys Lys Ala Ile Val Ala Leu Arg Glu Pro Ser Leu		
100	105	110
Gly Pro Cys Phe Gly Met Lys Gly Gly Ala Ala Gly Gly Tyr Ala		
115	120	125
Gln Val Leu Pro Met Glu Lys Ile Asn Leu His Phe Thr Gly Asp Phe		
130	135	140
His Ala Ile Thr Ser Ala His Asn Met Ile Ser Ala Leu Leu Asp Asn		
145	150	155
Tyr Leu Tyr Gln Asn Gln Ser Lys Gly Phe Gly Leu Lys Glu Ile Leu		160
165	170	175
Trp Arg Arg Val Leu Asp Val Asn Asp Arg Ser Leu Arg Asn Ile Val		
180	185	190
Val Gly Leu Gly Pro Lys Thr Asn Gly Ile Thr Gln Glu Ser Gly Phe		
195	200	205
Asp Ile Thr Pro Ala Ser Glu Ile Met Ala Ile Leu Cys Leu Ser Lys		
210	215	220
Asp Val Asp Asp Leu Arg Arg Arg Ile Glu Asn Ile Leu Leu Gly Tyr		
225	230	235
Thr Tyr Asp Asn Lys Pro Phe Thr Val Lys Asp Leu Gly Val Ala Gly		
245	250	255
Ala Ile Thr Val Leu Leu Lys Asp Ala Ile His Pro Asn Leu Val Gln		
260	265	270
Thr Thr Glu Gly Thr Ala Ala Phe Val His Gly Gly Pro Phe Ala Asn		
275	280	285
Ile Ala His Gly Cys Asn Ser Ile Leu Ala Thr Lys Met Ala Met Thr		
290	295	300
Phe Gly Asp Tyr Val Ile Thr Glu Ala Gly Phe Gly Ala Asp Leu Gly		
305	310	315
Ala Glu Lys Phe Tyr Asn Ile Lys Cys Arg Lys Ser Gly Leu Gln Pro		
325	330	335
Arg Leu Thr Val Ile Val Ala Thr Ala Gln Gly Leu Lys Met His Gly		
340	345	350
Gly Val Ser Leu Asp Arg Ile Lys Glu Pro Asn Leu Glu Gly Leu Arg		
355	360	365
Glu Gly Leu Arg Asn Leu Asp Lys His Val Arg Asn Leu His Ser Phe		
370	375	380
Gly Gln Thr Val Ile Val Ala Phe Asn Lys Phe Ala Ser Asp Thr Asp		
385	390	395
Glu Glu Met Glu Leu Leu Arg Glu His Cys Glu Gln Leu Gly Val Gly		
405	410	415
Tyr Ala Ile Asn Asn Ala Phe Ser Glu Gly Glu Gly Ala Val Asp		
420	425	430
Leu Ala Asn Leu Val Val Glu Thr Ile Glu Asn Lys Pro Ser Glu Pro		
435	440	445
Leu Gln Phe Thr Tyr Asn Asp Glu Asp Ser Val Gln Gln Lys Ile Glu		
450	455	460
Lys Val Ala Thr Asn Leu Tyr Gly Ala Ser Val Val Thr Tyr Ser Thr		
465	470	480
Leu Thr Arg Asn Lys Ile Lys Leu Ile Glu Glu Met Gly Ile Gly His		
485	490	495
Tyr Pro Val Cys Ile Ala Lys Thr Gln Tyr Ser Phe Ser Ala Asp Pro		
500	505	510
Lys Val Tyr Gly Ala Val Asp Asn Phe Glu Leu His Ile Lys Asp Ile		
515	520	525

Val Ile Asn Asn Gly Ala Glu Met Ile Val Ala Ile Ala Gly Glu Ile
 530 535 540
 Met Arg Met Pro Gly Leu Pro Lys Glu Pro Gln Ala Leu His Ile Asp
 545 550 555 560
 Ile Val Asp Gly Asn Ile Glu Gly Leu Ser
 565 570

<210> 8973

<211> 1095

<212> PRT

<213> B.fragilis

<400> 8973

Leu Lys Pro Ile Leu Phe Met Thr Lys Lys Ser Asn Leu Ser Leu Arg
 1 5 10 15
 Phe Thr Arg Val Trp Glu Lys His Cys Leu Lys Thr Ala Ala Ala Thr
 20 25 30
 Leu Leu Leu Cys Cys Ala Leu Pro Val Gln Ala Lys Ala Asp Thr Tyr
 35 40 45
 Lys Thr Gln Glu Thr Ala Ser Ile Gln Gln Thr Val Lys Thr Thr
 50 55 60
 Gly Val Ile Ile Asp Asn Thr Gly Glu Pro Leu Ile Gly Val Ser Val
 65 70 75 80
 Lys Val Gln Gly Thr Asn Thr Gly Thr Ile Thr Asp Leu Asp Gly Lys
 85 90 95
 Phe Ser Ile Gly Thr Pro Pro Lys Ala Leu Leu Glu Phe Ser Phe Ile
 100 105 110
 Gly Tyr Lys Thr Ile Ile Met Glu Val Thr Gly Lys Glu Leu His Ile
 115 120 125
 Thr Met Gln Glu Asp Ser Lys Gln Leu Asp Glu Val Val Val Val Gly
 130 135 140
 Tyr Gly Ser Gln Lys Lys Val Asn Val Thr Gly Ser Val Ser Met Val
 145 150 155 160
 Asn Ala Asp Val Leu Glu Ser Arg Pro Val Gln Asn Val Ser Gln Ala
 165 170 175
 Leu Gln Gly Val Ile Pro Gly Leu Asn Met Ser Val Gly Ser Ser Gly
 180 185 190
 Gly Thr Leu Asp Gly Lys Leu Asn Val Asn Ile Arg Gly Ala Gly Thr
 195 200 205
 Ile Ser Asp Gly Ser Ser Ser Pro Leu Val Leu Ile Asp Gly Ile
 210 215 220
 Glu Gly Asp Met Asn Thr Val Asn Pro Asn Asp Ile Glu Ser Val Ser
 225 230 235 240
 Val Leu Lys Asp Ala Ala Ser Ser Ser Ile Tyr Gly Ala Arg Ala Ala
 245 250 255
 Phe Gly Val Ile Leu Ile Thr Thr Lys Ser Gly Lys Ser Gly Lys Thr
 260 265 270
 Arg Val Asn Tyr Ser Gly Asn Val Arg Phe Ser Asp Ala Ile Gln Leu
 275 280 285
 Pro Asp Met Val Asp Ser Tyr Thr Phe Ala Gln Tyr Phe Asn Arg Ala
 290 295 300
 Ser Thr Asn Gly Gly Glu Ser Pro Thr Phe Asp Glu Lys Ala Leu Gln
 305 310 315 320
 Asn Ile Leu Asp Phe Gln Asn Gly Lys Phe Thr Asp Pro Ser Thr Pro
 325 330 335
 Glu Tyr Tyr Gly Val Glu Ala Gly Pro Asp Gly Lys Trp Lys Ser Tyr
 340 345 350
 Ala Gly Ser Phe Ala Asn Thr Asp Trp Phe Lys Glu Phe Tyr Lys Ser
 355 360 365

Trp Thr Pro Ser Thr Glu His Asn Leu Ser Ile Ser Gly Gly Thr Glu
 370 375 380
 Lys Leu Thr Tyr Met Ile Ser Gly Ser Phe Leu Asn Gln Asn Gly Leu
 385 390 395 400
 Ile Arg His Gly Glu Asp Asn Phe Asn Arg Tyr Thr Met Asn Ala Lys
 405 410 415
 Ile Ser Ala Lys Pro Ala Glu Trp Val Thr Leu Asn Tyr Thr Ser Lys
 420 425 430
 Trp Thr Arg Glu Asp Tyr Asp Arg Pro Thr Tyr Met Thr Gly Ala Phe
 435 440 445
 Phe His Asn Ile Ala Arg Arg Trp Pro Thr Cys Ala Pro Met Asp Pro
 450 455 460
 Asn Gly His Tyr Met Pro Asn Met Glu Ile Ile Gln Leu Glu Glu Gly
 465 470 475 480
 Gly Val Gln Thr Ser Gln Arg Asn Trp Tyr Thr Asn Gln Leu Gln Ala
 485 490 495
 Ile Phe Glu Pro Val Lys Asp Trp Arg Ile Val Val Glu Gly Ser Met
 500 505 510
 Arg Thr Tyr Thr Arg Lys Gln His Trp Ala Val Leu Pro Ile Tyr Gly
 515 520 525
 Tyr Asp Val Asn Asn Lys Pro Tyr Leu Leu Ser Trp Asn Gly Gly Ala
 530 535 540
 Ala Gly Tyr Ser Glu Val Gln Asp Glu Arg Glu Asp Glu Asp Tyr Phe
 545 550 555 560
 Ser Gly Asn Ile Tyr Ser Asp Tyr Ala Lys Thr Ile Gly Asn His Tyr
 565 570 575
 Phe Lys Val Met Gly Gly Phe Asn Ala Glu Leu Phe Arg Pro Ser Gly
 580 585 590
 Met Thr Gly Phe Gly Thr Asp Leu Ile Ser Ser Asn Val Pro Ser Leu
 595 600 605
 Gly Leu Thr Gln Asp Asn Gln Lys Ala Ser Ala Trp Ala Arg Glu Arg
 610 615 620
 Ala Ile Ala Gly Phe Phe Gly Arg Val Asn Tyr Asn Tyr Lys Glu Arg
 625 630 635 640
 Tyr Met Leu Glu Ala Asn Leu Arg Tyr Asp Gly Ser Ser Arg Phe Val
 645 650 655
 Gly Asp Lys Arg Trp Gly Leu Phe Pro Ser Phe Ser Ala Gly Trp Asn
 660 665 670
 Ile Ala Arg Glu Asp Phe Phe Arg Pro Leu Thr Gly Val Ile Gly Thr
 675 680 685
 Leu Lys Leu Arg Gly Ser Trp Gly Gln Leu Gly Asn Asn Asn Thr Asp
 690 695 700
 Lys Ala Asn Ala Trp Tyr Pro Phe Tyr Gln Asn Met Ile Thr Gly Ser
 705 710 715 720
 Ala Asn Ser Gly Trp Leu Ile Asp Ser Lys Lys Gln Asn Thr Ala Gln
 725 730 735
 Leu Pro Gly Ile Val Asn Ser Leu Met Thr Trp Glu Thr Ile Glu Ser
 740 745 750
 Trp Asp Ile Gly Leu Asp Phe Gly Leu Leu Asp Asn Arg Leu Thr Gly
 755 760 765
 Ser Val Gly Tyr Tyr Asn Arg Tyr Thr Tyr Asp Met Ile Gly Pro Ala
 770 775 780
 Pro Ile Leu Pro Pro Val Leu Gly Ala Leu Pro Pro Gln Val Asn Asn
 785 790 795 800
 Cys Asp Met Lys Ser Tyr Gly Trp Glu Leu Glu Leu Ser Trp Arg Asp
 805 810 815
 Arg Ile Ser Glu Phe Asp Tyr Ser Ala Arg Phe Val Leu Ser Asp Gly
 820 825 830
 Lys Arg Lys Ile Leu Arg Tyr Pro Asn Pro Thr Asn Ser Leu Ser Ser

835	840	845
Asp Val Tyr Tyr Asn Gly Gln Ile Leu Gly Asp Ile Trp Gly Tyr Lys		
850	855	860
Thr Val Gly Ile Ala Gln Thr Gln Glu Glu Met Asn Ala His Leu Ala		
865	870	875
Asn Gly Gly Thr Pro Asn Trp Gly Thr Asn Trp Gly Ala Gly Asp Val		
885	890	895
Met Tyr Ala Asn Leu Asp Gly Lys Glu Gly Val Asn Asn Gly Ser Asn		
900	905	910
Thr Leu Glu Asp His Gly Asp Leu Thr Ile Ile Gly Asn Asn Thr Pro		
915	920	925
Arg Tyr Asn Phe Gly Leu Thr Leu Thr Gly Ala Trp Lys Gly Phe Asp		
930	935	940
Phe Ser Val Phe Leu Gln Gly Val Met Lys Arg Asp Tyr Trp Leu Asp		
945	950	955
Gly Pro Tyr Phe Trp Gly Ala Asn Gly Gly Leu Trp Gln Ser Thr Ala		
965	970	975
Phe Lys Glu His Met Asp Tyr Trp Arg Pro Glu Gly Asp Pro Leu Gly		
980	985	990
Ala Asn Thr Asn Ala Tyr Tyr Pro Lys Pro Tyr Phe Asn Thr Asp Lys		
995	1000	1005
Asn Gln Lys Val Gln Ser Gly Tyr Leu Gln Asn Ala Ala Tyr Cys Arg		
1010	1015	1020
Leu Lys Asn Ala Gln Ile Gly Tyr Thr Leu Pro Lys Ile Trp Thr Arg		
1025	1030	1035
Lys Ala Ala Met Glu Ser Val Arg Val Tyr Val Ser Gly Asp Asn Leu		
1045	1050	1055
Val Thr Phe Ser Gly Ile Ser Gly Val Phe Asp Pro Glu Leu Leu Gly		
1060	1065	1070
Ser Asp Trp Gly Asp Gly Lys Leu Tyr Pro Leu Gln Arg Thr Ile Ser		
1075	1080	1085
Ile Gly Leu Asn Val Asn Phe		
1090	1095	

<210> 8974

<211> 74

<212> PRT

<213> B.fragilis

<400> 8974

Leu Leu Thr Ile Ile Met Val Ser Phe Arg Val Ser Pro Leu Asp Glu		
1	5	10
		15

Leu Val Ala Leu Gly Ser Glu Asn Pro Ile Thr Arg Ala Pro Ser Arg		
20	25	30

Leu Ala Ala Val Ser Lys Leu Ser Arg Val Arg Val Glu Gly Ser Lys		
35	40	45

Asn Arg Val Ala Thr Thr Leu Pro Ser Asn Asn Arg Arg Leu Gly Phe		
50	55	60

Phe Ser Asn Cys Phe Ala Ile Ser Ser Ile		
65	70	

<210> 8975

<211> 407

<212> PRT

<213> B.fragilis

<400> 8975

Lys Val Asn Ile Lys Ile Cys Gln Lys Lys Val Ala Leu Val Tyr Lys		
1	5	10
		15

Leu Tyr Ile Cys Gln Met Lys Thr Thr Arg Tyr Ile Tyr Thr Ala Leu
 20 25 30
 Ile Leu Ala Ala Leu Ser Gln Gly Asn Ala Val Ala Gln Asn Lys Gly
 35 40 45
 Gly Phe Phe Ser Lys Val Arg Asp Thr Phe Ser Thr Glu Ile Lys Ile
 50 55 60
 Gly Asn Tyr Thr Phe Lys Asp Gly Ser Val Tyr Thr Gly Glu Met Lys
 65 70 75 80
 Gly Arg Lys Pro Asn Gly Lys Gly Lys Thr Ile Phe Lys Asn Gly Asp
 85 90 95
 Val Tyr Glu Gly Glu Tyr Val Lys Gly Lys Arg Glu Gly Phe Gly Val
 100 105 110
 Tyr Thr Phe Pro Asp Gly Glu Arg Tyr Glu Gly Gln Trp Tyr Gln Asp
 115 120 125
 Gln Gln His Gly Asn Gly Ile Tyr Tyr Phe Met Asn Asn Asn Arg Tyr
 130 135 140
 Asp Gly Met Trp Phe Gln Asp Tyr Gln His Gly Pro Gly Thr Met Tyr
 145 150 155 160
 Tyr His Asn Gly Asp Ile Tyr Val Gly Asp Trp Val Asn Asp Lys Arg
 165 170 175
 Glu Gly Lys Gly Thr Tyr Trp Arg Asp Gly Ser Lys Tyr Val Gly
 180 185 190
 Asp Trp Lys Asn Asp Lys Lys Asp Gly Lys Gly Val Leu Val Trp Asn
 195 200 205
 Asp Gly Cys Lys Tyr Asp Gly Asp Trp Lys Asn Asp Val Arg Glu Gly
 210 215 220
 Lys Gly Thr Phe Glu Tyr Thr Asn Gly Glu Lys Tyr Val Gly Asp Trp
 225 230 235 240
 Lys Asp Asp Leu Gln His Gly Lys Gly Ile Phe Phe Leu Gly Gly Asp
 245 250 255
 Arg Tyr Glu Gly Ser Tyr Leu Gln Gly Glu Arg Thr Gly Pro Gly Ile
 260 265 270
 Tyr Tyr His Ala Asn Gly Asp Lys Tyr Val Gly Asn Phe Lys Asp Gly
 275 280 285
 Met Gln Asp Gly Glu Gly Thr Phe Thr Trp Ala Asn Gly Ala Val Tyr
 290 295 300
 Glu Gly Glu Trp Lys Asp Asn Lys Arg Asn Gly His Gly Ile Tyr Lys
 305 310 315 320
 Trp Ser Asn Gly Asp Val Tyr Glu Gly Glu Trp Lys Asn Asn Gln Pro
 325 330 335
 Asn Gly Lys Gly Thr Leu Thr Leu Thr Asn Gly Thr Lys Tyr Lys Gly
 340 345 350
 Gly Phe Val Asn Gly Met Gln Glu Gly Asn Gly Val Glu Glu Asp Lys
 355 360 365
 Asn Gly Asn Arg Tyr Glu Gly Phe Phe Lys Gln Gly Lys Lys Asn Gly
 370 375 380
 Pro Phe Val Glu Thr Asp Lys Asn Gly Lys Val Ile Arg Lys Gly Thr
 385 390 395 400
 Tyr Lys Phe Gly Arg Leu Glu
 405

<210> 8976

<211> 112

<212> PRT

<213> B.fragilis

<400> 8976

Leu Arg Ile Met Glu Asn Gln Glu Thr Lys Ile Ser Asn Val Thr Thr
 1 5 10 15

Ser Met Lys Val Glu Lys Glu Ile Asn Gly Phe Lys Val Ser Gly Thr
 20 25 30
 Val Glu Val Tyr Asn Asp Ser Lys Arg Ile Lys Arg Ile Asp Ala Ser
 35 40 45
 Val Gln Lys Thr Asp Ser Lys Ala Met Ala Pro Phe Lys Tyr Ser Phe
 50 55 60
 Thr Val Thr Arg Gly Leu Asn Asp Met Val Asn Pro Ser Glu Glu Asn
 65 70 75 80
 Glu Pro Glu Arg Asp Gln Ala Leu Thr Ala Gly Ile Glu Phe Glu Lys
 85 90 95
 Ala Val Glu Gln Ala Val Ser Gly Met Ile Phe Asn Thr Ile Val Glu
 100 105 110

<210> 8977

<211> 154

<212> PRT

<213> B.fragilis

<400> 8977

Asp Thr Gln Met Lys Tyr Leu Arg Tyr Thr Cys His Gly Asn Leu Tyr
 1 5 10 15
 Ala Asp Ala Glu Cys Lys Lys Gly Asn Glu Leu Val Asn Asp Leu Ile
 20 25 30
 Pro Tyr Arg Pro Glu Phe Leu Asn Asn Ser Leu Pro Leu Gly Lys Lys
 35 40 45
 Asp Ile Lys Tyr Gly Cys His Thr Asn Tyr Asn Lys Cys Asp His Lys
 50 55 60
 Ile Ile Asp Ser Gly Leu Gln Gln Phe Thr Phe Asp Ala Gly Arg Ser
 65 70 75 80
 His Gln Ser Lys Tyr Asn Gly Tyr Thr Ala Arg Thr Asp Ala Asp Gly
 85 90 95
 Lys Arg Asp Gly Ile Lys Tyr Leu Leu Phe Tyr Ile Leu Pro Phe Glu
 100 105 110
 Ala Ile His Val Pro Val Arg Phe Phe Leu Ile Arg Arg Val Arg Ile
 115 120 125
 Ala Glu Gln Leu His Gly Arg Phe Thr Asp Lys Tyr Pro Thr Ala Gln
 130 135 140
 Leu Asn Asp Arg Asp Gly Gln Thr Glu His
 145 150

<210> 8978

<211> 390

<212> PRT

<213> B.fragilis

<400> 8978

Lys Thr Lys Met Ile Ile Arg Ile Val Gln Asn Ile Gln Arg Ile Asn
 1 5 10 15
 Lys Glu Gly Asn Ala Pro Leu Tyr Ile Ser Phe Tyr Leu Gly Lys Glu
 20 25 30
 Lys Val Val Ile Pro Cys Lys Leu Ser Val Pro Thr Thr Lys Phe Asp
 35 40 45
 Ser Lys Thr Gly Met Leu Arg Gly Thr Asn Lys Glu Ala Lys Asp Ile
 50 55 60
 Asn Leu Ile Ile Glu Arg Leu Lys Ala Lys Val Asn Asp Ile Leu Val
 65 70 75 80
 Lys Tyr Arg Leu Lys Asn Leu Thr Leu Asn Lys Glu Ala Phe Met Arg
 85 90 95
 Glu Tyr Asn Asn Pro Ser Asp Phe Lys Ser Phe His Asp Phe Val Ala

100	105	110													
Ser	Tyr	Met	Lys	Thr	Tyr	Ser	Arg	Arg	Leu	Glu	Ile	Gly	Thr	Phe	Arg
115						120						125			
His	His	Lys	Ser	Cys	Met	Arg	Lys	Phe	Lys	Glu	Tyr	Cys	Glu	Gly	Leu
130						135					140				
Gln	Phe	His	Glu	Leu	Thr	Glu	Asp	Phe	Leu	Arg	Asp	Tyr	Leu	Ile	Tyr
145						150				155			160		
Met	Lys	Lys	Thr	Leu	Cys	Asn	Ala	Asp	Ser	Thr	Ala	Gln	Arg	Asn	Leu
						165			170			175			
Ser	Thr	Ile	Lys	Ile	Tyr	Val	Ser	Ala	Ala	Ile	Lys	Lys	Gly	Tyr	Met
						180			185			190			
Glu	Asn	Asp	Pro	Phe	Lys	Asp	Phe	Gly	Val	Lys	Arg	Ile	Lys	Ser	Asn
						195			200			205			
Ile	Asp	Tyr	Leu	Thr	Glu	Glu	Leu	Ile	Lys	Phe	Ile	Ser	Leu	Tyr	
						210			215			220			
Tyr	Asp	Arg	Arg	Leu	Pro	Glu	Arg	Leu	Glu	Arg	Thr	Leu	Gly	Phe	Phe
						225			230			235			240
Leu	Phe	Met	Cys	Phe	Thr	Ser	Leu	His	Ile	Ser	Asp	Ala	Arg	His	Val
						245			250			255			
Cys	Leu	Glu	Gln	Ile	Asn	Asn	Gly	Ile	Leu	Thr	Tyr	Tyr	Arg	Ile	Lys
						260			265			270			
Asn	Arg	Asn	Cys	Lys	Pro	Glu	Ala	Ile	Lys	Ile	Pro	Leu	Ser	Ile	Pro
						275			280			285			
Ala	Phe	Lys	Ile	Ile	Glu	Glu	Leu	Gln	Gly	Lys	Arg	Lys	Glu	Gly	His
						290			295			300			
Leu	Phe	Thr	Ser	Leu	Gln	Cys	Asp	Gln	Val	Val	Asn	Arg	Gln	Ile	Lys
						305			310			315			320
Glu	Ile	Ala	Ser	Ile	Leu	Glu	Ile	Lys	Lys	Val	Ser	Ala	Lys	Thr	
						325			330			335			
Gly	Arg	His	Thr	Phe	Ala	Thr	Ile	Phe	Leu	Lys	Lys	Thr	Lys	Asp	Val
						340			345			350			
Ala	Thr	Leu	Gln	Lys	Leu	Leu	Gly	His	Ser	Asn	Leu	Lys	Glu	Thr	Met
						355			360			365			
Ile	Tyr	Ala	His	Val	Leu	Asp	Glu	Ser	Lys	Gln	Glu	Gly	Met	Gln	Cys
						370			375			380			
Phe	Asn	Cys	Phe	Ala	Ile										
						385			390						

<210> 8979

<211> 266

<212> PRT

<213> B.fragilis

<400> 8979

Ile	His	Arg	Met	Met	Asn	Asn	Arg	Ile	Tyr	Cys	Thr	Phe	Ile	Leu	Ser
1					5				10			15			
Ile	Ile	Ala	Val	Met	Val	Cys	Ala	Gln	Glu	Gln	Pro	Lys	Asp	Ser	
						20			25			30			
Ile	Lys	Arg	Gln	Arg	Glu	Thr	Val	Pro	Glu	Ile	Arg	Gln	Glu	Leu	His
						35			40			45			
Ile	Asn	Asp	Arg	Asn	Ile	Gln	Thr	Asp	Gly	Thr	Leu	Pro	Asp	Asn	Thr
						50			55			60			
Arg	Gln	Ala	Ala	Ala	Gly	Asp	Ser	Met	Thr	Phe	Arg	Ile	Pro	Tyr	Pro
						65			70			75			80
Glu	Ser	Ile	Pro	Ser	Gly	Trp	Ile	Val	Pro	Gln	Leu	Gly	Thr	Tyr	Ser
						85			90			95			
Thr	Pro	Phe	Ile	Trp	Asp	Tyr	Asp	Arg	Tyr	Tyr	Asn	Phe	Asn	Leu	Ser
						100			105			110			
Pro	Asn	Ser	Asn	Leu	Ser	Thr	Phe	Ser	Asn	Tyr	Asn	Thr	Tyr	Leu	Ser

115	120	125
Ile Gly Thr Ile Val Lys Ala Gly Ala Ala Tyr Ser Phe Ser Pro Asn		
130	135	140
Asp Arg Trp Ile Phe Ser Gly Gly Val Phe Val Ala Lys Tyr Thr Leu		
145	150	155
Pro Ser Leu Arg Ile Pro Thr Ala Pro Met Ala Gly Ser Arg Phe Asp		
165	170	175
Ala Gly Ile His Gly Lys Ile Thr Tyr Arg Leu Thr Asp His Leu Tyr		
180	185	190
Leu Asn Val Phe Gly Gln Tyr Ser Leu Asn Gly Gln Arg Asn Ser Lys		
195	200	205
Lys Gly Tyr Met Val Pro Asp Leu Tyr Met Gln Asn His Phe Gly Gly		
210	215	220
Thr Val Asp Tyr Met Phe Asn Gly Lys Phe Gly Ile Thr Gly Gly Ala		
225	230	235
Ile His Glu Phe Asn Pro Val Lys Gly Arg Trp Glu Thr Asn Pro Val		
245	250	255
Phe Gly Pro Val Ile His Leu Lys Lys Lys		
260	265	

<210> 8980

<211> 585

<212> PRT

<213> B.fragilis

<400> 8980

Tyr Ser Met Ile Met Lys Thr Thr Lys Leu Gln Leu Ser Leu Leu Ala		
1	5	10
Leu Phe Leu Gly Cys Ala Ser Leu Gln Ala Gln Tyr Lys Trp Ala Asp		
20	25	30
Pro Leu Lys Gln Asp Phe His Thr Val Arg Gly Gln Ala Trp Gln Asp		
35	40	45
Glu Leu Lys Asp Ser Tyr Ala Arg Leu Pro Gln Arg Ala Glu Asp Lys		
50	55	60
Val Arg Lys Pro Leu Trp Asp Leu Ser Arg Gln Ser Ala Gly Leu Ser		
65	70	75
Val Ala Phe Arg Ser Asn Ala Ser Glu Ile Lys Val Arg Tyr Val Val		
85	90	95
Lys Gly Gly Leu Ser Met Pro His Met Pro Ala Thr Gly Val Ser Gly		
100	105	110
Ile Asp Leu Tyr Ala Thr Asp Asn Asn Gly Gln Glu Arg Trp Cys Ala		
115	120	125
Gly Asn Tyr Ser Met Gly Asp Thr Ile Val Tyr Asn Phe Arg Gly Leu		
130	135	140
Ser Tyr Ala Ala Lys Ser Gly Asn Gly Phe Glu Tyr Gln Leu Phe Leu		
145	150	155
Pro Leu Tyr Asn Ser Val Ser Trp Met Glu Ile Gly Val Pro Ala Asp		
165	170	175
Ala Ser Phe Arg Phe Leu Pro Val Ser Gln Glu Lys Pro Leu Val Ile		
180	185	190
Tyr Gly Thr Ser Ile Ala Gln Gly Ala Cys Ala Ser Arg Pro Gly Met		
195	200	205
Ala Trp Gly Asn Ile Leu Asn Arg Lys Leu Gly His Pro Val Ile Asn		
210	215	220
Leu Gly Phe Ser Gly Asn Gly Lys Leu Glu Glu Ala Leu Phe Asp Leu		
225	230	235
Leu Ser Glu Ile Asp Ala Arg Leu Tyr Ile Ile Asp Cys Met Pro Asn		
245	250	255
Leu Ala Gly Lys Glu Ala Ser Ala Val Val Tyr Gln Arg Thr Leu Glu		

260	265	270
Gly Val Lys Lys Leu Arg Glu Lys Ser Arg Ala Pro Ile Leu Leu Val		
275	280	285
Glu His Asp Gly Tyr Ser Asn Glu Phe Ser Ser Glu Ser Ala Glu Glu		
290	295	300
Ser Tyr Arg Val Ala Asn Ala Glu Leu Arg Lys Ala Tyr Glu Thr Leu		
305	310	315
Gln Lys Glu Gln Val Pro Thr Val Tyr Tyr Leu Thr Lys Glu Glu Ile		
325	330	335
Gly Met Pro Met Asp Ala Met Val Asp Gly Val His Ser Thr Asp Leu		
340	345	350
Gly Met Gln Gln Tyr Ala Asp Ser Tyr Arg Lys Lys Ile Gly Glu Ile		
355	360	365
Leu His Glu Glu Ser Glu Gly Pro Thr Ser Cys Ile Pro Cys Lys Gln		
370	375	380
Gln Arg Asp Pro Tyr Asp Trp Tyr Gly Arg His Glu Glu Ile Leu Lys		
385	390	395
Leu Asn Lys Gln Ser Ala Pro Glu Val Val Met Ile Gly Asn Ser Ile		
405	410	415
Thr His Phe Trp Gly Gly Glu Pro Ile Ala His Asn Gln Phe Gly Thr		
420	425	430
Glu Ser Trp Asp Lys Leu Phe Lys Gly Lys Arg Val Arg Asn Leu Gly		
435	440	445
Phe Gly Trp Asp Lys Thr Glu Asn Val Leu Trp Arg Ile Tyr His Gly		
450	455	460
Glu Leu Asp Gly Phe Gln Ala Gln Asn Ile Phe Leu Leu Ile Gly Thr		
465	470	475
Asn Asn Leu Leu Phe Asn Thr Asp Asp Glu Val Ile Glu Gly Ile Cys		
485	490	495
Arg Val Val Lys Ala Ile Arg Glu Arg Gln Pro Arg Thr Lys Leu Cys		
500	505	510
Val Met Gly Ile Leu Pro Arg Lys Glu Met Glu Thr Arg Ile Ala Gln		
515	520	525
Ile Asp Ala Ala Leu Gln Glu Arg Leu Asn Asp Lys Asp Cys Thr Phe		
530	535	540
Ile Asn Leu Ala Pro Gln Leu Thr His Lys Asp Gly Thr Ile Asp His		
545	550	555
Ser Leu Phe Arg Asp Gly Leu His Pro Asn Ala Glu Gly Tyr Lys Arg		
565	570	575
Ile Ala Lys Val Leu Lys Gly Tyr Leu		
580	585	

<210> 8981

<211> 79

<212> PRT

<213> B.fragilis

<400> 8981

Arg Phe Tyr Leu Phe Ser Leu Ser Phe Tyr Leu Gly Gly Tyr Thr Thr		
1	5	10
Phe Phe Ser Asp Asn Lys Tyr Thr Phe Gln Thr Ala Thr Ile Cys Asp		
20	25	30
Phe Lys Asn Val Phe Ile Asn Lys Lys Cys Leu Leu Lys Gln Ser Leu		
35	40	45
Lys Lys Lys Ala Leu Ile Met Gln Arg Thr Val Ile Lys Gly Ile Val		
50	55	60
Arg Phe Asp Arg Arg Asn Lys Ser Tyr Arg Leu Leu Val Tyr Arg		
65	70	75

<210> 8982
<211> 106
<212> PRT
<213> B.fragilis

<400> 8982

Thr	Ser	Gly	Val	Pro	Ala	Trp	Leu	Val	Ile	Ser	Cys	Ser	Gly	Val	Leu
1							5			10				15	
Val	Ala	Ile	Val	Thr	Ala	Tyr	Cys	Gly	Pro	Ile	Met	Phe	Ile	Gly	Leu
							20			25			30		
Ala	Val	Pro	His	Leu	Cys	Arg	Ala	Ile	Phe	His	Thr	Ser	Asp	His	Arg
							35			40			45		
Ile	Leu	Met	Pro	Ala	Thr	Leu	Leu	Ala	Gly	Ala	Ser	Leu	Ala	Leu	Val
							50			55			60		
Cys	Asn	Leu	Val	Ala	Arg	Met	Pro	Gly	Phe	Glu	Gly	Ala	Leu	Pro	Val
							65			70			75		80
Asn	Ser	Val	Thr	Ala	Leu	Val	Gly	Ala	Pro	Val	Val	Ala	Ser	Val	Leu
							85			90				95	
Phe	Arg	Lys	Arg	Lys	Ser	Glu	Leu	Ser	Glu						
							100			105					

<210> 8983
<211> 288
<212> PRT
<213> B.fragilis

<400> 8983

Ile	Lys	Ile	Val	Phe	Asn	Ile	Ile	Asn	Asn	Tyr	Ser	Met	Lys	Lys	Asn
1							5			10			15		
Lys	Ile	Leu	Ile	Ile	Ile	Pro	Ser	Arg	Phe	Ala	Ser	Thr	Arg	Leu	Pro
							20			25			30		
Glu	Lys	Pro	Leu	Val	Lys	Ile	Ala	Gly	Lys	Glu	Met	Val	Leu	Arg	Val
							35			40			45		
Ala	Glu	Ile	Ala	Asn	Tyr	Val	Cys	Asn	Lys	Val	Glu	Gly	Cys	Asn	Tyr
							50			55			60		
Ile	Val	Ala	Thr	Asp	His	Glu	Lys	Ile	Val	Asn	Phe	Cys	Lys	Glu	Asn
							65			70			75		80
Asn	Ile	Ala	Val	Met	Met	Thr	Ser	Glu	Asn	Cys	Lys	Ser	Gly	Thr	Glu
							85			90			95		
Arg	Cys	Trp	Asp	Val	Thr	Thr	Lys	Ile	Ala	Glu	Lys	Pro	Asp	Phe	Ile
							100			105			110		
Val	Asn	Leu	Gln	Gly	Asp	Asn	Pro	Leu	Cys	Pro	Pro	Trp	Phe	Ile	Glu
							115			120			125		
Gln	Leu	Ile	Glu	Ala	Trp	Lys	Asn	Asp	Lys	Glu	Gly	Gln	Val	Phe	Thr
							130			135			140		
Pro	Ser	Leu	His	Leu	Ser	Trp	Glu	Glu	Tyr	Asp	Arg	Met	Lys	Glu	Ser
							145			150			155		160
Lys	Lys	Ile	Thr	Pro	Tyr	Ser	Gly	Thr	Thr	Val	Glu	Val	Asp	Lys	Phe
							165			170			175		
Gly	Tyr	Ala	Leu	Ala	Phe	Ser	Lys	Ala	Met	Ile	Pro	Val	Ile	Arg	Asn
							180			185			190		
Glu	Glu	Lys	Val	Arg	Lys	Ile	Leu	Asp	Lys	Ser	Pro	Val	Arg	Arg	His
							195			200			205		
Ile	Gly	Leu	Tyr	Ser	Tyr	Thr	Tyr	Asp	Ala	Leu	Lys	Lys	Tyr	Phe	Glu
							210			215			220		
Val	Glu	Ala	Ser	Pro	Tyr	Glu	Leu	Pro	Glu	Gly	Leu	Glu	Gln	Met	Arg
							225			230			235		240
Phe	Leu	His	Asn	Arg	Ile	Pro	Val	Lys	Met	Ile	Asp	Val	Asp	Tyr	Arg
							245			250			255		

Asn Arg Lys Ser Met Ser Gly Val Asp Ser Pro Glu Asp Ile Glu Arg		
260	265	270
Ala Glu Lys Ile Ile Ala Glu Phe Gly Glu Phe Asn Leu Ser Pro Glu		
275	280	285

<210> 8984

<211> 704

<212> PRT

<213> B.fragilis

<400> 8984

Met Leu Thr Ser Asn Phe Thr Arg Gln Ile Met Lys Ile Lys Leu Lys			
1	5	10	15
His Ile Tyr Phe Cys Ser Leu Ile Gly Met Gly Gly Leu Ala Leu Thr			
20	25	30	
Ser Cys Asn Asp Phe Leu Asp Arg Ser Pro Ile Ser Asp Ile Thr Pro			
35	40	45	
Glu Asp Tyr Phe Asn Thr Val Asp Gln Val Gly Ser Tyr Val Ile Asn			
50	55	60	
Tyr Tyr Asp Asp Tyr Leu Glu Asn Ser Asn Thr Thr Lys Met Tyr His			
65	70	75	80
Gln Arg Ala Trp Asn Ser Gly Val Val Arg Asn Asp Ala Asn Thr Asp			
85	90	95	
Asn Leu Leu Ser Asp Asp Gly Asn Leu Asp Tyr Phe Ala Gly Asn Lys			
100	105	110	
Gln Val Pro Glu Gly Lys Asn Ile Gln Glu Pro Leu Asn Arg Ile Arg			
115	120	125	
Val Trp Asn Tyr Leu Phe Glu Lys Val Leu Pro Lys Glu Lys Glu Gly			
130	135	140	
Thr Ile Pro Gly Asp Ala Glu Leu Leu Lys Gln Tyr Ile Gly Glu Ala			
145	150	155	160
Tyr Phe Phe Arg Ala Leu Ala Tyr Tyr Asn Ala Leu Val Arg Phe Gly			
165	170	175	
Asp Tyr Pro Ile Ile Thr Glu Val Leu Pro Asp Asp Ser Glu Thr Leu			
180	185	190	
Ile Lys Lys Ser Gln Arg Ala Pro Arg Asn Glu Val Ala Arg Phe Ile			
195	200	205	
Leu Lys Asp Leu Asp Glu Ala Val Ser Arg Leu Lys Glu Arg Gly Phe			
210	215	220	
Gln Asn Asn Gln Arg Ile Asn Lys Gln Ala Ala Leu Val Leu Lys Ser			
225	230	235	240
Arg Val Ala Leu Phe Glu Ala Thr Phe Glu Lys Tyr His Gln Gly Thr			
245	250	255	
Gly Arg Val Pro Gly Asp Pro Thr Trp Pro Gly Ala Ala Met Ser Tyr			
260	265	270	
Asn Ser Gly Lys Thr Phe Asp Ile Ala Gly Glu Ile Asn Phe Phe Leu			
275	280	285	
Thr Glu Ala Met Gln Ala Ala Val Ala Val Ala Asp His Val Gln Leu			
290	295	300	
Ala Glu Asn Ser His Val Met Asn Pro Pro Tyr Asn Thr Leu Tyr Gly			
305	310	315	320
Trp Asn Pro Tyr Phe Glu Met Phe Ser Gln Pro Asp Leu Ser Asn Val			
325	330	335	
Glu Glu Val Leu Leu Trp Lys Gln Tyr Asn Leu Ser Leu Thr Val Ser			
340	345	350	
His Cys Val Gly Ala Arg Leu Lys Asn Gly Asp Arg Thr Gly Leu Thr			
355	360	365	
Arg Ser Leu Ile Lys Thr Phe Leu Met Lys Asp Gly Leu Pro Ile Tyr			
370	375	380	

Ala Ser Asn Ser Thr Ile Asp Asp Arg Thr Val Ser Asp Glu Lys Lys
 385 390 395 400
 Asp Arg Asp Glu Arg Leu Gln Leu Phe Val Trp Gly Glu Lys Asp Ala
 405 410 415
 Trp Met Thr Asp Glu Arg Ala Asp Thr Val Lys Asn Tyr Asn Lys Asp
 420 425 430
 Gln Ala Gly Asn Ser Val Thr Asn Pro Val Pro Val Pro Trp Val Lys
 435 440 445
 Ser Thr Val Ile Ser Asp Gln Glu Gln Thr Arg Asp Ile Thr Gly Tyr
 450 455 460
 Arg Ser Arg Lys Phe Tyr Pro Tyr Asp Asp Glu Gln Ser Lys Ser Asp
 465 470 475 480
 Glu Leu Leu Gly Thr Asn Ala Cys Pro Ile Phe Arg Ala Ser Glu Ala
 485 490 495
 Tyr Leu Asn Tyr Ile Glu Ala Cys Tyr Glu Lys Asn Gly Thr Leu Asp
 500 505 510
 Ser Lys Ala Gln Glu Tyr Trp Lys Ala Ile Arg Arg Arg Ala Gly Val
 515 520 525
 Asp Glu Asp Tyr Gln Lys Thr Ile Ala Arg Thr Asp Leu Gly Arg Glu
 530 535 540
 Asp Asp Leu Gly Val Tyr Ser Gly Asp Arg Met Val Asp Ala Thr Leu
 545 550 555 560
 Tyr Asn Ile Arg Arg Glu Arg Arg Cys Glu Phe Ile Ala Glu Gly Met
 565 570 575
 Arg Trp Asp Asp Leu Lys Arg Trp Arg Ser Trp Asp Arg Leu Phe Thr
 580 585 590
 Glu Pro Tyr Ile Val Glu Gly Ile Asn Phe Trp Asp Glu Ala Tyr Lys
 595 600 605
 Leu Tyr Thr Thr Val Asp Lys Asp Gly Asn Glu Lys Ser Ala Val Val
 610 615 620
 Ala Asp Gly Ser Thr Ser Ala Asn Met Ser Pro Lys Ser Asp Gly Lys
 625 630 635 640
 Tyr Val Arg Pro Leu Arg Arg Thr Gln Thr Asn Asn Gln Leu Tyr Asp
 645 650 655
 Gly Tyr Thr Trp Lys Lys Ala Tyr Tyr Leu Glu Pro Leu Gly Leu Gln
 660 665 670
 Asp Leu Gln Leu Ser Ala Thr Asn Pro Glu Asp Ile Asn Thr Ser Met
 675 680 685
 Met Tyr Gln Asn Pro Tyr Trp Pro Ala Gly Thr Gly Lys Ala Leu Glu
 690 695 700

<210> 8985

<211> 159

<212> PRT

<213> B.fragilis

<400> 8985

Ile Thr Asn Phe Leu Lys Gln Gln Pro Met Thr Leu Ile Lys Ser Ile
 1 5 10 15
 Ser Gly Ile Arg Gly Thr Ile Gly Gly Gly Ala Gly Glu Lys Asn
 20 25 30
 Pro Leu Asp Ile Val Lys Phe Thr Ser Ala Tyr Ala Thr Leu Ile Arg
 35 40 45
 Lys Thr Cys Lys Ser Lys Ser Asn Lys Ile Val Val Gly Arg Asp Ala
 50 55 60
 Arg Ile Ser Gly Glu Met Val Lys Asn Val Val Val Gly Thr Leu Met
 65 70 75 80
 Gly Met Gly Trp Asp Val Val Asp Ile Asp Leu Ala Ser Thr Pro Thr
 85 90 95

Thr Glu Leu Ala Val Thr Met Glu Arg Ala Cys Gly Gly Ile Ile Leu
 100 105 110
 Thr Ala Ser His Asn Pro Lys Gln Trp Asn Ala Leu Lys Met Val Asp
 115 120 125
 Glu His Gly Glu Phe Leu Asn Ala Ala Glu Gly Gln Glu Val Leu Arg
 130 135 140
 Ile Ala Ala Ala Glu Gly Val Asp Tyr Ala Asp Val Asp His Leu
 145 150 155

<210> 8986

<211> 136

<212> PRT

<213> B.fragilis

<400> 8986

Lys Ile Gly Tyr Leu Val Val Leu Val Gln Cys Phe Leu Lys Phe Thr
 1 5 10 15
 Asn Ile Val Glu Ile Gly Val Tyr Ile Leu Val Cys Thr Leu Met Ser
 20 25 30
 His Leu Arg Arg Tyr Asn Ile Val Ala Val Arg Phe Val Glu His Asp
 35 40 45
 Ile Lys Ala Asn Asp Thr Thr Cys Phe Asn Val Val Leu Pro Gly Phe
 50 55 60
 Glu Asn Tyr Pro Asn Tyr Tyr Thr Tyr Pro Asp Val Phe Arg Tyr Val
 65 70 75 80
 Asp Asn Gly Thr Ser Val Ala Gly Val Phe Thr Glu Gly Ser Met Tyr
 85 90 95
 Ala Lys Tyr Gly Thr Thr Asp Val Pro Pro Gly Trp Leu Leu Ala Leu
 100 105 110
 Lys Tyr Val Thr Asn Tyr Ala His Val Arg Met Ile Gly Leu His His
 115 120 125
 Gly Ala Gly Arg Ile Arg Ala Asn
 130 135

<210> 8987

<211> 76

<212> PRT

<213> B.fragilis

<400> 8987

Ser Thr Val Ile His Ile Thr Glu Asn Val Arg Ile Ser Ile Val Ile
 1 5 10 15
 Arg Ile Ile Phe Glu Thr Gly Lys His His Ile Glu Ala Ser Gly Ile
 20 25 30
 Val Arg Leu Asp Val Val Leu Tyr Lys Ala Tyr Gly Tyr Asn Ile Val
 35 40 45
 Pro Ser Lys Met Gly His Gln Ser Ala Asn Gln Tyr Val Asn Pro Tyr
 50 55 60
 Phe Tyr Asp Ile Arg Lys Phe Gln Lys Ala Leu Asn
 65 70 75

<210> 8988

<211> 219

<212> PRT

<213> B.fragilis

<400> 8988

Lys Met Tyr Ser Ser Thr Lys Thr Val Ser Ala Phe Ser Val Leu Leu
 1 5 10 15

Pro Asp Gly Arg Thr Lys Trp Arg Trp Asp Thr Gly Arg Ser Met Gly
 20 25 30
 Val Glu Phe Met Ala Gln Lys Thr Ile Gly Lys Thr Thr Gly Trp Leu
 35 40 45
 Ala Tyr Thr Leu Ala Lys Ser Asp Arg Lys Phe Ala Thr Gly Gly Ile
 50 55 60
 Asn Asn Gly Glu Arg Phe Pro Tyr Lys Tyr Asp Arg Arg His Asn Ile
 65 70 75 80
 Asp Leu Thr Leu Asn His Arg Phe Asn Glu Arg Ile Asp Val Ser Ala
 85 90 95
 Ser Trp Ile Phe Thr Thr Gly Gly Thr Thr Thr Ile Pro Thr Glu Leu
 100 105 110
 Thr Gly Ile Ile Arg Pro Gly Asp Asn Asp Ser Ser Ile Glu Glu Gly
 115 120 125
 Asp Tyr Val Lys His Arg Asn Asn Tyr Arg Leu Pro Ala Thr His Arg
 130 135 140
 Leu Asn Val Gly Val Asn Phe Ser Lys Lys Thr Lys His Gly Met Arg
 145 150 155 160
 Ile Trp Asn Val Ser Ile Tyr Asn Val Tyr Asn Ala Met Asn Pro Thr
 165 170 175
 Leu Ile Tyr Arg Thr Tyr Lys Lys Thr Glu Tyr Thr Gln Gly Glu Gln
 180 185 190
 Ala Gln Gly Asn Arg Ile Pro Val Ile Arg Lys Phe Thr Leu Leu Pro
 195 200 205
 Cys Ile Pro Ser Phe Ser Tyr Thr Tyr Lys Phe
 210 215

<210> 8989

<211> 360

<212> PRT

<213> B.fragilis

<400> 8989

Val Gln Arg Phe Ile Val Phe Leu Pro Thr Gln Tyr Leu Tyr Lys Gln
 1 5 10 15
 Val Met Leu Thr Lys Val Ile Ala Gln Ala His Ile Asp His Phe Thr
 20 25 30
 Lys Trp Phe Glu Arg Ala Asp Lys Ile Val Ile Val Ser His Val Ser
 35 40 45
 Pro Asp Gly Asp Ala Ile Gly Ser Ser Leu Gly Leu Tyr His Phe Leu
 50 55 60
 Asp Ser Gln Asp Lys Ile Val Asn Val Ile Val Pro Asn Ala Phe Pro
 65 70 75 80
 Asp Phe Leu Lys Trp Met Pro Gly Ser Lys Asp Ile Leu Leu Tyr Asp
 85 90 95
 Arg Tyr Gln Glu Phe Ala Asp Lys Leu Ile Met Glu Ala Asp Val Ile
 100 105 110
 Cys Cys Leu Asp Phe Asn Ala Leu Lys Arg Ile Asp Glu Met Ser Asp
 115 120 125
 Ile Val Ala Ala Ser Pro Gly Arg Lys Ile Met Ile Asp His His Leu
 130 135 140
 Tyr Pro Glu Asp Phe Cys Arg Ile Thr Ile Ser His Ala Glu Ile Ser
 145 150 155 160
 Ser Thr Ser Glu Leu Val Phe Arg Leu Ile Cys Arg Met Gly Tyr Phe
 165 170 175
 Ser Asp Ile Ser Lys Glu Gly Ala Glu Cys Ile Tyr Thr Gly Met Met
 180 185 190
 Thr Asp Thr Gly Gly Phe Thr Tyr Asn Ser Asn Asn Arg Glu Ile Tyr
 195 200 205

Phe Ile Ile Ser Glu Leu Ser Lys Gly Ile Asp Lys Asp Asp Ile
 210 215 220
 Tyr Arg Lys Val Tyr Asn Thr Tyr Ser Glu Ser Arg Leu Arg Leu Met
 225 230 235 240
 Gly Tyr Val Leu Ser Asn Met Lys Val Tyr Lys Asp Tyr Lys Ser Ala
 245 250 255
 Leu Ile Ser Leu Thr Lys Glu Glu Gln Gly Lys Phe Asp Tyr Ile Lys
 260 265 270
 Gly Asp Ser Glu Gly Phe Val Asn Ile Pro Leu Ser Ile Lys Asn Val
 275 280 285
 Cys Phe Ser Cys Phe Leu Arg Glu Asp Thr Glu Lys Lys Met Ile Lys
 290 295 300
 Ile Ser Leu Arg Ser Val Gly Lys Phe Pro Cys Asn Arg Leu Ala Ala
 305 310 315 320
 Glu Phe Phe Asn Gly Gly His Leu Asn Ala Ser Gly Gly Glu Phe
 325 330 335
 Tyr Gly Thr Met Glu Glu Ala Val Lys Val Phe Glu Gln Ala Leu Glu
 340 345 350
 Lys Tyr Lys Pro Leu Leu Lys Glu
 355 360

<210> 8990

<211> 78

<212> PRT

<213> B.fragilis

<400> 8990

Arg Thr Leu Ser Asp Pro Tyr Gln Arg Thr Ser Arg Thr Ile Thr Lys
 1 5 10 15
 Cys Ala Phe Lys Ala Tyr Ser Leu Leu Phe Val Asp Tyr Thr Thr Val
 20 25 30
 Ala Glu Gln Asn Pro Glu Arg Asn Glu Asn Val Ile Ser Glu Leu Asp
 35 40 45
 Thr Ala Thr Glu Arg Val Lys Thr Ser Thr Glu Ala Leu Pro Tyr Ser
 50 55 60
 Ser Phe His Ile Ser Leu Val Ile Pro Ile Ile Arg Ser Ile
 65 70 75

<210> 8991

<211> 154

<212> PRT

<213> B.fragilis

<400> 8991

Arg Gln Phe Pro Phe Ile Leu Phe Leu Cys Ala Asn Asn Lys Ser Phe
 1 5 10 15
 Ala Phe Lys Thr Leu Val Ile Cys Ile Gln Arg Thr Ser Phe Asn Thr
 20 25 30
 Val Leu Lys Gln Ser Leu Phe Leu Ile Gly Ser Leu Ile Leu Gln Thr
 35 40 45
 Lys Asp Phe Ser Trp Leu Val Met Leu Thr Val Tyr Gly Val Asp Ser
 50 55 60
 Val Leu Thr Ile Ile His Arg Leu Leu Leu His Glu Asn Ile Gly Leu
 65 70 75 80
 Pro His Arg Lys His Leu Tyr Gln Ile Met Val Asn Glu Leu Arg Ile
 85 90 95
 Pro His Val Val Val Ser Leu Val Tyr Met Ile Val Gln Ile Val Ile
 100 105 110
 Ile Ile Gly Tyr Leu Tyr Cys Arg Gly Tyr Gly Asp Trp Tyr Leu Leu

115	120	125
Gly Cys Ile Leu Leu Leu Ser	Gly Ile Tyr Ile Val	Leu Met Arg Lys
130	135	140
Tyr Phe His Leu His Leu Leu Pro Lys Arg		
145	150	

<210> 8992

<211> 374

<212> PRT

<213> B.fragilis

<400> 8992

Ile Leu Leu Leu Tyr Leu His Ile Leu Asn Phe Lys Ala Leu Phe Asn			
1	5	10	15
Met Phe Asn Ser Phe Gly Asn Ile Phe Arg Leu Thr Ser Phe Gly Glu			
20	25	30	
Ser His Gly Lys Gly Ile Gly Gly Val Ile Asp Gly Phe Pro Ala Gly			
35	40	45	
Ile Val Ile Asp Glu Glu Phe Val Gln Gln Glu Leu Asn Arg Arg Arg			
50	55	60	
Pro Gly Gln Ser Val Ile Thr Thr Ser Arg Lys Glu Ala Asp Lys Val			
65	70	75	80
Glu Phe Leu Ser Gly Ile Phe Glu Gly Lys Ser Thr Gly Cys Pro Ile			
85	90	95	
Gly Phe Ile Val Trp Asn Glu Asn Gln His Ser Asn Asp Tyr Asn Asn			
100	105	110	
Leu Glu Lys Val Tyr Arg Pro Ser His Ala Asp Tyr Thr Tyr Thr Val			
115	120	125	
Lys Tyr Gly Ile Arg Asp His Arg Gly Gly Arg Ser Ser Ala Arg			
130	135	140	
Glu Thr Ile Ser Arg Val Val Gly Gly Ala Leu Ala Lys Leu Ala Leu			
145	150	155	160
Arg Gln Leu Gly Ile His Ile Thr Ala Tyr Thr Ser Gln Val Gly Pro			
165	170	175	
Ile Lys Leu Glu Gly Asn Tyr Thr Asp Tyr Asp Leu Asp Leu Ile Glu			
180	185	190	
Thr Asn Pro Val Arg Cys Pro Asp Pro Glu Lys Ala Lys Glu Met Gln			
195	200	205	
Asp Leu Ile Tyr Lys Ile Lys Gly Glu Gly Asp Thr Ile Gly Gly Val			
210	215	220	
Leu Thr Cys Val Ile Lys Gly Cys Pro Ile Gly Leu Gly Gln Pro Val			
225	230	235	240
Tyr Gly Lys Leu His Ala Ala Leu Gly Asn Ala Met Leu Ser Ile Asn			
245	250	255	
Ala Ala Lys Ala Phe Glu Tyr Gly Asp Gly Phe Lys Gly Leu Lys Gln			
260	265	270	
Lys Gly Ser Glu Gln Asn Asp Val Phe Tyr Asn Asn Asn Gly Arg Ile			
275	280	285	
Glu Thr Arg Thr Asn His Ser Gly Gly Ile Gln Gly Gly Ile Ser Asn			
290	295	300	
Gly Gln Asp Ile Phe Phe Arg Val Ala Phe Lys Pro Val Ala Thr Val			
305	310	315	320
Leu Met Glu Gln Glu Thr Val Asn Ile Asp Gly Ile Asp Thr Thr Leu			
325	330	335	
Lys Ala Arg Gly Arg His Asp Pro Cys Val Leu Pro Arg Ala Val Pro			
340	345	350	
Ile Val Glu Ala Met Ala Ala Met Thr Ile Leu Asp Tyr Tyr Leu Leu			
355	360	365	
Asp Arg Met Thr Gln Leu			

<210> 8993

<211> 370

<212> PRT

<213> B.fragilis

<400> 8993

Asn	Gln	Val	Phe	Phe	Thr	Leu	Leu	Ser	Leu	Phe	Ser	Val	Ile	Phe	Ser
1			5					10				15			
Ile	Phe	Val	Arg	Pro	Thr	Thr	Gln	Thr	Ser	Gly	Met	Gly	Asp	Asp	Lys
			20					25			30				
Asn	Lys	Arg	Ile	Asp	Phe	Val	Asp	Leu	Thr	Lys	Gly	Val	Cys	Ile	Ile
	35					40				45					
Leu	Val	Val	Met	Ala	His	Ile	Gly	Gly	Ala	Phe	Glu	Lys	Leu	Asp	Tyr
	50					55			60						
His	Ser	Met	Ile	Ala	Ser	Phe	Arg	Met	Pro	Leu	Tyr	Phe	Phe	Ile	Ser
	65					70			75		80				
Gly	Ile	Phe	Phe	Lys	Ser	Tyr	Glu	Gly	Leu	Phe	Gly	Phe	Phe	Ile	Arg
				85				90			95				
Lys	Ile	Asn	Lys	Leu	Ile	Ile	Pro	Phe	Leu	Phe	Tyr	Leu	Ser	Ala	
				100				105			110				
Phe	Phe	Leu	Lys	Tyr	Ile	Val	Trp	Lys	Ile	Ala	Pro	Gly	Val	Phe	Gln
			115					120			125				
Leu	Pro	Val	Ser	Trp	Thr	Glu	Leu	Leu	Val	Val	Phe	His	Asp	His	Ala
	130					135			140						
Leu	Ile	Lys	Phe	Asn	Pro	Pro	Ile	Trp	Phe	Leu	Leu	Ala	Leu	Phe	Asn
	145					150			155			160			
Cys	Asn	Ile	Leu	Phe	Tyr	Leu	Val	His	Ser	Leu	Arg	Asn	Arg	Arg	Leu
				165				170			175				
Gly	Leu	Met	Phe	Ala	Leu	Thr	Leu	Leu	Ile	Gly	Thr	Ala	Gly	Phe	Tyr
				180				185			190				
Met	Gly	Lys	His	Gln	Ile	Glu	Leu	Pro	Leu	Tyr	Met	Asp	Val	Ala	Met
			195			200			205						
Ser	Ala	Leu	Pro	Phe	Tyr	Val	Ala	Gly	Phe	Trp	Ile	Arg	Arg	Tyr	Asn
	210					215			220						
Phe	Phe	Leu	Phe	Pro	His	Arg	Phe	Asp	Lys	Leu	Ile	Pro	Leu	Cys	Ile
	225					230			235			240			
Leu	Ala	Ala	Leu	Ala	Val	Met	Tyr	Phe	Thr	Ala	Thr	Phe	Val	Gly	Met
						245			250			255			
Arg	Thr	Asn	Asn	Tyr	Ala	Gly	Asn	Ile	Phe	Gln	Phe	Trp	Ala	Ser	Ala
				260				265			270				
Phe	Ala	Gly	Ile	Phe	Met	Ile	Met	Leu	Phe	Cys	Lys	Lys	Phe	Lys	Lys
			275			280			285						
Leu	Pro	Val	Ile	Ser	Tyr	Met	Gly	Arg	Tyr	Ser	Val	Ile	Thr	Leu	Gly
	290					295			300						
Ile	His	Ala	Pro	Leu	Leu	His	Phe	Glu	Tyr	Pro	Val	Val	Ser	Arg	Phe
	305					310			315			320			
Ile	His	Asn	Glu	Trp	Gly	Gln	Ala	Ile	Ala	Leu	Leu	Leu	Leu	Thr	Leu
				325				330			335				
Thr	Val	Cys	Ile	Ile	Ala	Thr	Pro	Ile	Phe	Leu	Lys	Leu	Ile	Pro	Gln
				340				345			350				
Ala	Val	Ala	Gln	Lys	Asp	Phe	Ile	Lys	Thr	Lys	Gln	Ser	Thr	Gln	Gln
				355				360			365				
Gly	Ser														
	370														

<210> 8994

<211> 158

<212> PRT
<213> B.fragilis

<400> 8994

Arg	Thr	Arg	Pro	Gly	Glu	Lys	Asn	Phe	Tyr	Arg	Ile	Ile	Val	Glu	Gln
1				5					10					15	
Arg	Lys	Tyr	Trp	Lys	Tyr	Tyr	Trp	Glu	Gln	Asn	Asp	Gln	Thr	Cys	Trp
					20			25					30		
Ser	Ser	Ala	Met	Gln	Lys	Ser	Phe	Lys	Leu	Gln	Thr	Asn	Glu	Asp	Val
					35			40				45			
Val	Leu	Thr	Asp	Gly	Lys	Pro	Ser	Thr	Glu	Glu	Asp	Asp	Glu	Asn	Gly
					50			55			60				
Leu	Phe	Gly	Thr	Val	Asn	Asn	Lys	Tyr	Ala	Ile	Phe	Asp	Asp	Ser	Arg
					65			70			75		80		
Phe	Thr	Asp	Gly	Ser	Tyr	Thr	Met	Asn	Val	Tyr	Asn	Asp	Ile	Tyr	Gly
					85			90			95				
Trp	Gly	Phe	Trp	Gly	Gln	Glu	Tyr	Ile	Trp	Ile	Lys	Thr	Asp	Val	Ser
					100			105			110				
Ile	Pro	Ile	Leu	Ser	Ile	Thr	Glu	Lys	Glu	Tyr	Tyr	Tyr	Phe	Arg	Ser
					115			120			125				
Val	Asn	Leu	Val	Glu	Ser	Asp	Ala	Tyr	Asp	Asn	Asn	Leu	Ser	Glu	Pro
					130			135			140				
Ile	Val	Phe	Pro	Asn	Asn	Trp	Lys	Arg	Arg	Tyr	Arg	Asn	Gly		
					145			150			155				

<210> 8995

<211> 913
<212> PRT
<213> B.fragilis

<400> 8995

Leu	Met	Thr	Pro	Leu	Lys	Ala	Asn	Thr	Ile	Ile	Ser	Ser	Ile	Leu	Leu
1					5				10				15		
Leu	Ile	Leu	Leu	Met	Leu	Pro	Tyr	Glu	Ala	Met	Ala	Gln	Arg	Arg	Arg
					20			25				30			
Val	Arg	Glu	Leu	Lys	Gly	Pro	Val	Val	Tyr	Ser	Pro	Pro	Lys	Asn	Asp
					35			40			45				
Ser	Leu	Arg	Val	Asp	Thr	Leu	Lys	Asn	Asp	Thr	Leu	Lys	Ala	Asn	Val
					50			55			60				
Leu	Lys	Ala	Asp	Thr	Leu	Ser	Ala	Glu	Ser	Val	Lys	Lys	Lys	Lys	Gln
					65			70			75		80		
Pro	Leu	Asp	Ala	Pro	Val	Val	Tyr	Ser	Ala	Asn	Asp	Ser	Ile	Val	Phe
					85			90			95				
Thr	Gln	Gly	Gly	Phe	Ala	His	Leu	Tyr	Gly	Asp	Gly	Lys	Val	Asn	Tyr
					100			105			110				
Glu	Asn	Ile	Glu	Leu	Gly	Ala	Glu	Ile	Ile	Thr	Met	Asn	Met	Asp	Ser
					115			120			125				
Ser	Thr	Val	Tyr	Ala	Arg	Gly	Val	Ile	Asp	Ser	Val	Gly	Val	Glu	Lys
					130			135			140				
Gly	Lys	Pro	Val	Phe	Lys	Asp	Gly	Glu	Thr	Pro	Tyr	Glu	Thr	Lys	Ala
					145			150			155		160		
Ile	Arg	Tyr	Asn	Phe	Lys	Ser	Lys	Lys	Gly	Phe	Ile	Asn	Asn	Val	Val
					165			170			175				
Thr	Gln	Gly	Glu	Gly	Tyr	Val	Val	Gly	Asn	Asn	Ala	Lys	Lys	Gly	
					180			185			190				
Ala	Asn	Asp	Glu	Leu	Phe	Met	Glu	Asn	Gly	Arg	Tyr	Thr	Thr	Cys	Asp
					195			200			205				
His	His	Asp	His	Pro	His	Phe	Tyr	Met	Gln	Leu	Thr	Lys	Ala	Lys	Val
					210			215			220				

Arg Pro Lys Lys Asn Val Val Thr Gly Pro Ala Tyr Leu Val Val Glu
 225 230 235 240
 Asp Val Pro Leu Pro Leu Ala Val Pro Phe Phe Phe Pro Phe Ser
 245 250 255
 Ser Ser Tyr Ser Ser Gly Phe Val Met Pro Ser Tyr Met Asp Asp Ser
 260 265 270
 Ser Arg Gly Phe Gly Leu Thr Gly Gly Tyr Tyr Phe Ala Val Ser
 275 280 285
 Asp Leu Met Asp Leu Lys Leu Thr Ala Asp Ile Phe Thr Lys Gly Ser
 290 295 300
 Trp Ala Ala Asn Met Glu Thr Asn Tyr Asn Lys Arg Tyr Lys Tyr Ser
 305 310 315 320
 Gly Ser Leu Gln Ala Gly Tyr Gln Val Thr Lys Leu Gly Asp Lys Gly
 325 330 335
 Met Pro Asp Tyr Ser Val Ala Lys Asp Phe Lys Ile Val Trp Asn His
 340 345 350
 Arg Gln Asp Gln Lys Ala Ser Pro Asn Ser Thr Phe Ser Ala Ser Val
 355 360 365
 Asn Phe Ala Thr Ser Ser Tyr Glu Arg Thr Asn Ile Asn Asn Leu Tyr
 370 375 380
 Asn Ser Gln Leu Met Thr Gln Asn Thr Lys Thr Ser Ser Val Ser Tyr
 385 390 395 400
 Ser Arg Ser Phe Pro Asp Gln Lys Leu Thr Leu Ala Gly Thr Phe Asn
 405 410 415
 Ile Ala Gln Thr Met Arg Asp Ser Ser Ile Ala Val Thr Leu Pro Asp
 420 425 430
 Leu Asn Ile Thr Leu Ser Thr Ile Phe Pro Phe Lys Arg Lys Arg Ala
 435 440 445
 Val Gly Glu Glu Arg Trp Tyr Glu Lys Ile Ser Leu Arg Tyr Ser Gly
 450 455 460
 Arg Leu Thr Asn Ser Leu Lys Thr Lys Asp Asp Arg Leu Phe Lys Ala
 465 470 475 480
 Gly Phe Arg Glu Trp Glu Asn Ala Met Gln His Asn Ile Pro Val Gln
 485 490 495
 Ala Thr Phe Thr Leu Phe Lys Tyr Leu Gln Val Val Pro Ser Phe Asn
 500 505 510
 Tyr Thr Glu Arg Trp Tyr Thr Arg Lys Val Met Lys Ser Tyr Asp Glu
 515 520 525
 Thr Thr Gln Lys Trp Asp Thr His Pro Gly Asp Thr Ile His Gly Phe
 530 535 540
 Tyr Arg Val Phe Asn Tyr Ser Ala Ser Leu Ala Leu Ser Thr Lys Met
 545 550 555 560
 Tyr Gly Met Tyr Gln Pro Leu Phe Met Lys Lys Glu Ile Gln Ile
 565 570 575
 Arg His Val Phe Thr Pro Gln Ile Ser Leu Asn Gly Ser Pro Ser Phe
 580 585 590
 Gly Gln Phe Trp Glu Tyr Tyr Arg Asp Ala Asp Gly Asn Asp Gln Tyr
 595 600 605
 Tyr Ser Pro Tyr Ser Ser Gln Gln Phe Gly Thr Ala Pro Arg Glu Lys
 610 615 620
 Ser Gly Thr Val Ser Phe Asp Val Ser Asn Asn Leu Glu Met Lys Tyr
 625 630 635 640
 Arg Asn Lys Lys Asp Ser Leu Val Lys Val Ser Leu Ile Asp Glu Ile
 645 650 655
 Gly Phe Asn Leu Ser Tyr Asn Met Ala Ala Lys Lys Gln Pro Trp Ser
 660 665 670
 Asn Leu Asn Met Arg Leu Arg Met Lys Phe Lys Lys Phe Asn Asn Tyr
 675 680 685
 Thr Leu Asn Met Asn Ala Val Phe Ala Thr Tyr Ala Tyr Thr Phe Asp

690	695	700
Lys Ser Gly Asn Val Ile Val Gly Asp Arg Thr Glu Trp Ser Tyr Gly		
705	710	715
Arg Phe Gly Arg Phe Gln Gly Trp Gly Ser Ser Ile Asn Tyr Thr Phe		720
725	730	735
Asn Asn Asp Thr Trp Lys Lys Leu Phe Gly Lys Asp Lys Asp Asn Asp		
740	745	750
Gln Lys Lys Lys Asp Gly Val Asp Glu Glu Lys Gly Asn Ser Thr		
755	760	765
Gly Asp Glu Ala Val Thr Glu Lys Arg Val Glu Lys Ala Gln Ala Asp		
770	775	780
Arg Asp Gly Tyr Gln Val Phe Lys Met Pro Trp Ser Leu Asn Val Asn		
785	790	795
Tyr Ser Phe Arg Ile Ser Glu Asp Arg Ser Lys Pro Ile Asn Arg Asn		800
805	810	815
Thr Met Arg Tyr Pro Phe Lys Tyr Thr Gln Asn Ile Asn Met Ser Gly		
820	825	830
Asn Leu Lys Ile Ser Asn Asn Trp Ser Phe Thr Phe Asn Ser Gly Tyr		
835	840	845
Asp Phe Glu Ala Lys Glu Ile Thr Gln Thr Ser Cys Thr Ile Thr Arg		
850	855	860
Asp Leu His Cys Phe Asn Met Ser Ala Ser Ile Ser Pro Phe Gly Arg		
865	870	875
Tyr Arg Tyr Tyr Asn Phe Thr Ile Arg Ala Thr Ala Ser Ile Leu Arg		
885	890	895
Asp Leu Lys Trp Asp Lys Arg Ser Gln Thr Gln Ser Asn Ile Gln Trp		
900	905	910

Tyr

<210> 8996

<211> 376

<212> PRT

<213> B.fragilis

<400> 8996

Lys Tyr Pro Thr Ile Met Ala Thr Lys Ile Lys Leu Asn Asp Cys Val		
1	5	10
Pro Cys Ile Ala Ile His Pro Gly Glu Ile Ile Lys Asp Glu Leu Asp		
20	25	30
Ala Arg Glu Met Lys Gln Lys Glu Leu Ala Ser Leu Met Ser Met Pro		
35	40	45
Thr Ser Val Leu Asn Asp Ile Ile Lys Gly Arg Arg Ala Val Thr Pro		
50	55	60
Glu Val Ala Val Leu Leu Gln Glu Ile Leu Gly Ile Asp Ala Ser Tyr		
65	70	75
Trp Leu Ser Leu Gln Asn Gln Tyr Asp Ile Asp Arg Ala Asn Ile Asn		
85	90	95
Lys Lys Ile Val Glu Arg Lys Lys Asn Ile Glu Ile Trp Lys Val Ile		
100	105	110
Ser Gln Tyr Cys Ser Val Lys Tyr Phe Glu Lys Leu Asn Val Ile Gly		
115	120	125
Thr Lys Ile Ser Glu Asn Ile Lys Ile Ile Tyr Ser Ile Phe Gly Val		
130	135	140
Thr Ser Val Glu Glu Leu Ile Ala Ser Phe Ser Ser Glu Lys Glu Leu		
145	150	155
Ser Tyr Phe Lys Lys Ser Glu Arg Leu Lys Ser Asp Pro Ile Asn Ile		
165	170	175
Phe Ser Trp Lys His Phe Ala Phe Tyr Gln Ser Ser Gln Met Leu Asp		

180	185	190
Val Ala Asp Phe Asp Glu Asn Ser	Leu Glu Arg Leu Val	Gln Glu Leu
195	200	205
Asn Gln Met Phe Val Val Asn Ile Asn Thr Ile Asp Lys Thr Lys Glu		
210	215	220
Ile Leu Ser Arg Tyr Gly Ile Lys Phe Ile Ile Val Pro Lys Phe Asp		
225	230	235
Lys Thr Pro Ile Asp Gly Phe Ser Phe Trp Gln Gly Lys Asn Pro Thr		
245	250	255
Ile Val Leu Thr Leu Arg Leu Asn Lys Ile Asp Asn Tyr Ala Phe Ala		
260	265	270
Leu Leu His Glu Ile Tyr His Val Tyr Met His Leu Phe Asn Asn Arg		
275	280	285
Glu Gln Lys Tyr Ile Ala Ile Glu Gly Ala Glu Ile Asn Lys Cys Glu		
290	295	300
Glu Glu Ala Asn Lys Phe Ala Lys Cys Ser Leu Ile Gly Lys Asp Leu		
305	310	315
Trp Asn Thr Phe Leu Lys Gln His Ser Met Ile Ser Pro His Ala Met		
325	330	335
Gln Met Lys Ile Lys Gln Phe Ala His Gln His Asn Ile Asn Glu Ala		
340	345	350
Ile Val Leu Gly Phe Tyr Gln His Asp Ile Asn Leu Tyr Ser Ile Lys		
355	360	365
Ser Ser Ile Ser Arg Glu Ile Lys		
370	375	

<210> 8997

<211> 64

<212> PRT

<213> B.fragilis

<400> 8997

Ile His Lys Thr Tyr Lys Ala Glu Ile Pro Ile Phe Val Ile Lys Lys		
1	5	10
Arg Leu Leu Ser Lys Ser Ile Ile Thr Lys Lys Ile Phe Tyr Phe Tyr		
20	25	30
Leu Tyr Phe Ser Gly Ile Phe Leu Ser Met Met Ala Ser Asn Thr Arg		
35	40	45
Asp Asn Ser Leu Ile Thr Lys Lys His Phe Cys His Leu Lys Ile Gly		
50	55	60

<210> 8998

<211> 412

<212> PRT

<213> B.fragilis

<400> 8998

Asn Pro Arg Thr Gly Phe Arg Lys Pro Glu Ala Asn Cys Gly Arg Arg		
1	5	10
Lys Gly Leu Gln Val Leu Lys Thr Ser Pro Arg Ser Asn Arg Leu His		
20	25	30
Ile Ala Leu Phe Gly Lys Arg Asn Ser Gly Lys Ser Ser Leu Ile Asn		
35	40	45
Ala Leu Thr Asn Gln Asn Ala Ala Leu Val Ser Asp Ile Ala Gly Thr		
50	55	60
Thr Thr Asp Pro Val Tyr Gln Pro Met Glu Ile His Gly Ile Gly Pro		
65	70	75
Cys Val Phe Ile Asp Thr Ala Gly Phe Asp Asp Glu Gly Glu Leu Gly		
85	90	95

Ser Leu Arg Ile Glu Arg Thr Leu Gln Ala Ala Asp Lys Ala Asp Ile
 100 105 110
 Ala Leu Met Val Cys Cys Asp Thr Glu Leu Ser Glu Glu Gln Arg Trp
 115 120 125
 Ile Glu Leu Leu Lys Glu Arg Asn Ile Pro Tyr Leu Leu Val Leu Asn
 130 135 140
 Lys Ala Asp Leu Leu Glu Lys Pro Asp Glu Val Ala Asp Lys Leu Glu
 145 150 155 160
 Gln Gln Thr Gly Gln His Pro Leu Ile Val Ser Ala Lys Glu Lys Thr
 165 170 175
 Gly Ile Asp Ser Ile Arg Gln Ser Ile Leu His Arg Leu Pro Glu Leu
 180 185 190
 Asn Glu Gln Pro Asp Ile Val Gly Asp Leu Ala Asn Glu Gly Asp Val
 195 200 205
 Val Leu Leu Val Met Pro Gln Asp Ile Gln Ala Pro Lys Gly Arg Leu
 210 215 220
 Ile Leu Pro Gln Val Gln Thr Leu Arg Glu Leu Leu Asp Lys Lys Cys
 225 230 235 240
 Ile Thr Leu Ser Cys Thr Thr Asp Gln Leu Asp Asn Ala Leu Lys Val
 245 250 255
 Leu Ser Ala Pro Pro Ser Leu Ile Ile Thr Asp Ser Gln Val Phe Arg
 260 265 270
 Thr Val Tyr Glu Lys Lys Pro Pro Gln Ser Arg Leu Thr Ser Phe Ser
 275 280 285
 Val Leu Phe Ala His Tyr Lys Gly Asp Ile Asp Tyr Tyr Thr Glu Gly
 290 295 300
 Ala Tyr Ile Ile Asp Gln Leu Thr Glu Asn Ser Arg Val Leu Ile Ala
 305 310 315 320
 Glu Ala Cys Thr His Ala Pro Leu Ser Glu Asp Ile Gly Arg Val Lys
 325 330 335
 Leu Pro Arg Met Leu Arg Lys Arg Ile Gly Glu Gln Leu His Ile Asp
 340 345 350
 Ile Val Ser Gly Asn Asp Phe Pro Lys Asp Leu Asn Cys Tyr Asp Leu
 355 360 365
 Ile Ile His Cys Gly Ala Cys Met Phe Asn Arg Lys His Val Leu Asn
 370 375 380
 Arg Ile Val Lys Ala Lys Ala Gln Gly Val Pro Met Thr Asn Tyr Gly
 385 390 395 400
 Ile Val Ile Ala Tyr Ile Asn Gly Ile Pro Phe His
 405 410

<210> 8999

<211> 213

<212> PRT

<213> B.fragilis

<400> 8999

Ile Tyr Pro Thr Glu Ala Phe Ala Phe Tyr Leu Gly Leu Leu Ile Gly
 1 5 10 15
 Ile Arg Tyr Lys Val Val Arg Ser Leu Lys Cys Leu Tyr Val Phe Gly
 20 25 30
 Ile Cys Ile Leu Ala Met Gly Ser Phe His Trp Val Ser Arg Met Met
 35 40 45
 Asp Arg Pro Val Gln Ser Ile Val Phe Tyr Asn Val Arg Gly Cys Pro
 50 55 60
 Val Val His Cys Ile Glu Ala Cys Gly Lys Ser Trp Leu Ala Tyr Ala
 65 70 75 80
 Asp Ser Ile Pro Asp Glu Arg Arg Leu Ser Arg Ala Val Ala Gly Tyr
 85 90 95

Trp Asn Arg Leu His Leu Asp Val Pro Val Thr Ile Thr Asp Asn Phe
 100 105 110
 His Ser Ser Gly Phe Trp Met Gln Asp His Leu Leu Met Phe Gly Asn
 115 120 125
 Lys Arg Ile Cys Met Val Ser Asp Asn Arg Trp Arg Asn Lys Thr Ala
 130 135 140
 Ala Glu Ser Phe Asn Ile Asp Tyr Leu Tyr Val Cys Lys Gly Tyr Thr
 145 150 155 160
 Gly Lys Leu Glu Ser Leu Val Gly Leu Phe His Cys Arg Glu Val Ile
 165 170 175
 Leu Asp Ser Ser Leu Ser Ala Tyr Tyr Lys Glu Ala Tyr Ser Glu Glu
 180 185 190
 Cys Arg Arg Leu Gly Leu His Phe Ile Ser Leu Ser Asp Glu Gly Ser
 195 200 205
 Val Arg Phe Leu Leu
 210

<210> 9000

<211> 122

<212> PRT

<213> B.fragilis

<400> 9000
 Phe Ile Tyr Leu Ile Lys Thr Ser Met Asn Gln Tyr Glu Thr Val Phe
 1 5 10 15
 Ile Leu Thr Pro Val Leu Ser Asp Val Gln Met Lys Glu Ala Val Glu
 20 25 30
 Lys Phe Lys Gly Ile Leu Gln Ala Glu Gly Ala Glu Ile Ile Asn Glu
 35 40 45
 Glu Asn Trp Gly Leu Lys Lys Leu Ala Tyr Pro Ile Gln Lys Lys Ser
 50 55 60
 Thr Gly Phe Tyr Gln Leu Ile Glu Phe Asn Ala Glu Pro Thr Val Ile
 65 70 75 80
 Asp Lys Leu Glu Leu Asn Phe Arg Arg Asp Glu Arg Val Ile Arg Phe
 85 90 95
 Leu Thr Phe Arg Met Asp Lys Tyr Ala Ala Glu Tyr Ala Ala Lys Arg
 100 105 110
 Arg Ser Val Lys Ser Asn Lys Lys Glu Asp
 115 120

<210> 9001

<211> 510

<212> PRT

<213> B.fragilis

<400> 9001
 Cys Thr Leu Ala Glu Tyr Ser Tyr Lys Pro Tyr Leu Cys Asn Pro Asn
 1 5 10 15
 Ser Lys Tyr Ser Asn Met Ala Phe Thr Asn Asn Val Met Ile Val Arg
 20 25 30
 His Lys Leu Leu Ala Lys Leu Val Asn Leu Trp Lys Glu Asn Lys Leu
 35 40 45
 Thr Asn Glu Ile Asp Arg Leu Pro Ile Glu Leu Ser Pro Arg Arg Ser
 50 55 60
 Arg Pro Leu Gly Arg Cys Cys Ile His Lys Glu Arg Ala Val Tyr Lys
 65 70 75 80
 Tyr Lys Leu Phe Pro Leu Leu Gly Phe Asp Met Thr Asp Glu Thr Asp
 85 90 95
 Glu Leu Thr Pro Leu Ser Glu Tyr Ala Arg Gln Ala Leu Glu Arg Lys

100	105	110
Asn Lys Gln Lys Glu Asn Ile Leu Cys Val Ile Asp Glu Ala Cys Ser		
115	120	125
Ser Cys Val Gln Val Asn Tyr Glu Val Thr Asn Leu Cys Arg Gly Cys		
130	135	140
Val Ala Arg Ser Cys Tyr Met Asn Cys Pro Lys Asp Ala Ile Arg Phe		
145	150	155
Arg Lys Asn Gly Gln Ala Lys Ile Asp His Asp Ala Cys Ile Ser Cys		
165	170	175
Gly Lys Cys His Gln Ser Cys Pro Tyr His Ala Ile Val Phe Ile Pro		
180	185	190
Val Pro Cys Glu Ala Cys Pro Val Lys Ala Ile Ser Lys Asp Glu		
195	200	205
Asn Gly Ile Glu His Ile Asp Glu Ser Lys Cys Ile Tyr Cys Gly Lys		
210	215	220
Cys Leu Asn Ala Cys Pro Phe Gly Ala Ile Phe Glu Ile Ser Gln Ala		
225	230	235
Phe Asp Val Leu Glu Gly Ile Arg Ser Gly Glu Lys Met Ile Ala Ile		
245	250	255
Pro Ala Pro Ser Ile Leu Gly Gln Phe Asn Thr Ser Ile Glu Ala Val		
260	265	270
Tyr Gly Ala Leu Arg Gln Met Gly Phe Ala Asp Val Val Glu Val Ala		
275	280	285
Gln Gly Ala Met Asp Thr Val Ser His Glu Ala Ala Glu Leu Lys Glu		
290	295	300
Lys Leu Glu Glu Gly Gln Pro Phe Met Thr Thr Ser Cys Cys Pro Ser		
305	310	315
Tyr Ile Glu Leu Val Asn Lys His Ile Pro Gly Met Lys Pro Tyr Val		
325	330	335
Ser Ser Thr Gly Ser Pro Met Tyr Tyr Ala Ala Arg Ile Ala Lys Glu		
340	345	350
Arg His Pro Asp Ala Lys Ile Val Phe Ile Gly Pro Cys Val Ala Lys		
355	360	365
Arg Lys Glu Ala Arg Arg Asp Glu Cys Val Asp Tyr Ile Leu Thr Phe		
370	375	380
Glu Glu Met Ala Ser Ile Phe Glu Gly Leu Asp Ile Gln Leu Glu Gln		
385	390	395
Thr Gln Pro Phe Ser Val Leu Tyr Thr Ser Val Arg Glu Ala His Gly		
405	410	415
Phe Ala Gln Ala Gly Gly Val Met Gly Ala Ile Lys Ala Tyr Leu Gly		
420	425	430
Glu Glu Ala Lys Lys Phe Ser Ala Ile Gln Val Ser Asp Leu Asn Lys		
435	440	445
Lys Asn Ile Gly Leu Leu Arg Ala Ala Ala Lys Thr Gly Lys Ala Gln		
450	455	460
Gly Gln Phe Ile Glu Val Met Ala Cys Glu Gly Gly Cys Ile Ser Gly		
465	470	475
Pro Ser Ala His Asn Asp Ala Ile Gly Gly Arg Arg Gln Leu Asn Gln		
485	490	495
Glu Leu Ile Lys Arg Arg Glu Ser Tyr Glu Glu Thr His Arg		
500	505	510

<210> 9002

<211> 801

<212> PRT

<213> B.fragilis

<400> 9002

Ile Gly Ile Ala Glu Lys Asn Tyr Leu Cys Ile Ser Thr Thr His His

1	5	10	15												
Lys	Asp	Lys	Ile	Met	Lys	Lys	Val	Leu	Ser	Leu	Leu	Ala	Phe	Leu	
				20			25					30			
Pro	Ala	Phe	Thr	Thr	Val	Met	Ala	Gln	Gln	Thr	Ala	Glu	Val	Pro	Asp
				35			40			45					
Val	Cys	Ala	Phe	Val	Asn	Pro	Ile	Ile	Gly	Thr	Asn	Gly	Met	Gly	His
				50			55			60					
Thr	Phe	Pro	Gly	Ala	Cys	Ala	Pro	Phe	Gly	Leu	Val	Gln	Leu	Ser	Pro
				65			70			75			80		
Asp	Thr	Asp	Thr	Ile	Pro	His	Asn	Ile	Asp	Gly	Thr	Tyr	Gln	Arg	Asn
				85			90				95				
Ala	Tyr	Glu	Tyr	Cys	Ala	Gly	Tyr	Gln	Tyr	His	Asp	Pro	Thr	Ile	Val
				100			105			110					
Gly	Phe	Ser	His	Thr	His	Leu	Ser	Gly	Thr	Gly	His	Ser	Asp	Leu	Gly
				115			120			125					
Asp	Ile	Leu	Ile	Met	Pro	Ala	Thr	Gly	Gln	Leu	Lys	Leu	Asn	Pro	Gly
				130			135			140					
Arg	Ala	Gly	Thr	Pro	Asp	Glu	Gly	Tyr	Arg	Ser	Arg	Phe	Ser	His	Asp
				145			150			155			160		
Thr	Glu	Val	Ala	Arg	Pro	Gly	Tyr	Tyr	Glu	Val	Glu	Leu	Ala	Asp	Tyr
				165			170			175					
Gly	Ile	Lys	Ala	Gln	Leu	Thr	Ala	Thr	Gln	Arg	Val	Gly	Ile	His	Lys
				180			185			190					
Tyr	Thr	Phe	Pro	Asp	Asn	Ala	Asp	Gly	His	Ile	Ile	Leu	Asp	Leu	Ile
				195			200			205					
His	Gly	Ile	Tyr	Asn	Tyr	Asp	Gly	Lys	Thr	Leu	Trp	Ala	Asn	Leu	Arg
				210			215			220					
Val	Glu	Asn	Asp	Thr	Leu	Leu	Thr	Gly	Tyr	Arg	Ile	Thr	Asn	Gly	Trp
				225			230			235			240		
Ala	Arg	Thr	Asn	Tyr	Thr	Tyr	Phe	Ala	Ile	Ser	Leu	Ser	Gln	Pro	Ile
				245			250			255					
Lys	Asp	Tyr	Gly	Tyr	Thr	Asp	Lys	Gly	Lys	Ala	Leu	Tyr	Lys	Gly	Phe
				260			265			270					
Trp	Arg	Arg	Phe	Asn	Thr	Asp	Arg	Asn	Phe	Pro	Glu	Met	Thr	Gly	Arg
				275			280			285					
Lys	Leu	Val	Ala	Tyr	Phe	Asn	Phe	Asp	Thr	Arg	Gln	Asn	Pro	Glu	Leu
				290			295			300					
Val	Ile	Lys	Val	Ala	Leu	Ser	Ala	Val	Ser	Thr	Glu	Gly	Ala	Val	Lys
				305			310			315			320		
Asn	Leu	Gln	Ala	Glu	Ala	Ala	Gly	Lys	Thr	Phe	Asn	Gln	Leu	Val	Ala
				325			330			335					
Glu	Ala	Asn	Ser	Ala	Trp	Asn	Arg	Glu	Leu	Asp	Val	Leu	Glu	Ala	Lys
				340			345			350					
Gly	Thr	Pro	Asp	Gln	Leu	Ala	Met	Phe	Tyr	Thr	Ser	Leu	Tyr	His	Thr
				355			360			365					
Met	Ile	Asn	Pro	Ser	Val	Tyr	Met	Asp	Val	Asp	Gly	Arg	Tyr	Arg	Gly
				370			375			380					
Leu	Asp	His	Asn	Ile	His	Thr	Ser	Glu	Gly	Phe	Thr	Asn	Tyr	Thr	Ile
				385			390			395			400		
Phe	Ser	Leu	Trp	Asp	Thr	Tyr	Arg	Ala	Glu	His	Pro	Phe	Leu	Asn	Leu
				405			410			415					
Leu	Lys	Pro	Arg	Gln	Asn	Thr	Asp	Met	Val	Gln	Ser	Met	Ile	Arg	His
				420			425			430					
Gln	Gln	Gln	Ser	Val	His	Gly	Met	Leu	Pro	Val	Trp	Ser	Leu	Met	Gly
				435			440			445					
Asn	Glu	Gly	Trp	Cys	Met	Ser	Gly	Tyr	His	Ala	Val	Ser	Ala	Leu	Ala
				450			455			460					
Asp	Ala	Val	Ala	Lys	Gly	Ala	Asp	Ile	Ser	Val	Gly	Glu	Ala	Leu	Met
				465			470			475			480		

Ala Met Asp His Thr Ala Asn Val Pro Tyr Tyr Glu Gly Val Glu Ala
 485 490 495
 Tyr Lys Arg Leu Gly Tyr Val Pro Phe Asp Gln Ser Gly Thr Ala Ala
 500 505 510
 Ser Thr Thr Leu Glu Tyr Ala Tyr Asp Asp Trp Thr Ile Tyr Arg Thr
 515 520 525
 Ala Leu Leu Ala Gly Asp Asp Gln Leu Ala Asp Leu Tyr Lys Lys Arg
 530 535 540
 Ala Asn Asn Tyr Arg Asn Val Phe Asp Thr Ser Val Gly Phe Ala Arg
 545 550 555 560
 Pro Arg Tyr Ser Asn Gly Glu Phe Arg Lys Glu Phe Asp Ala Met Gln
 565 570 575
 Thr Tyr Gly Glu Gly Phe Ile Glu Gly Asn Ser Trp Asn Phe Ser Phe
 580 585 590
 His Val Pro His Asp Val Ala Gly Leu Ile Arg Leu Met Gly Gly Glu
 595 600 605
 Lys Lys Phe Val Ser Arg Leu Asp Thr Leu Phe Ser Met Ala Leu Pro
 610 615 620
 Arg Lys Tyr Tyr Glu Lys Asn Glu Asp Ile Ala Glu Val Ser Leu Val
 625 630 635 640
 Arg Arg Tyr Val His Gly Asn Glu Pro Ser His His Ile Pro Tyr Leu
 645 650 655
 Tyr Ala Trp Thr Ser Gln Pro Trp Lys Thr Gln Tyr Trp Leu Arg Thr
 660 665 670
 Val Met Asn Arg Met Tyr Lys Asn Asp Ile Asp Gly Leu Gly Gly Asn
 675 680 685
 Asp Asp Cys Gly Gln Met Ser Ala Trp Tyr Leu Phe Thr Ala Met Gly
 690 695 700
 Phe Tyr Pro Val Cys Pro Gly Thr Asp Gln Tyr Val Leu Gly Ala Pro
 705 710 715 720
 Tyr Leu Pro Tyr Ile Arg Met Asn Leu Pro Asn Gly Arg Thr Phe Glu
 725 730 735
 Ile Lys Ala Pro Lys Val Ser Asp Arg Asn Cys Tyr Val Arg Gln Val
 740 745 750
 Lys Leu Asn Gly Lys Val Tyr Asp Lys Met Tyr Ile Thr His Ala Asp
 755 760 765
 Leu Leu Ala Gly Gly Thr Leu Glu Phe Asp Met Ala Ala Ser Pro Asn
 770 775 780
 Lys Lys Arg Gly Leu Ala Lys Glu Ala Lys Pro Tyr Ser Met Ser Glu
 785 790 795 800
 Glu

<210> 9003
 <211> 181
 <212> PRT
 <213> B.fragilis

<400> 9003
 Asp Met Lys Ala Phe Phe Ser Phe Val Ala Ala Leu Val Leu Ser Leu
 1 5 10 15
 Ser Met Ala Ala Gln Asn Lys Ser Phe Tyr Asp Phe Thr Val Lys Thr
 20 25 30
 Ile Asp Gly Lys Glu Tyr Pro Leu Ser Gly Leu Lys Gly Lys Lys Val
 35 40 45
 Leu Val Val Asn Val Ala Ser Lys Cys Gly Leu Thr Pro Gln Tyr Ala
 50 55 60
 Glu Leu Gln Glu Leu Tyr Asp Gln Tyr Lys Asp Gln Asn Phe Val Ile
 65 70 75 80

Ile Gly Phe Pro Ala Asn Asn Phe Met Gly Gln Glu Pro Gly Thr Asn
 85 90 95
 Glu Glu Ile Ala Lys Phe Cys Ser Val Asn Tyr Asp Val Thr Phe Pro
 100 105 110
 Ile Met Ala Lys Ile Ser Val Lys Gly Lys Asp Met Ala Pro Leu Tyr
 115 120 125
 His Trp Leu Thr Glu Lys Lys Leu Asn Gly Lys Gln Asp Ala Pro Val
 130 135 140
 Gln Trp Asn Phe Gln Lys Phe Met Ile Asp Glu Asn Gly Asn Trp Val
 145 150 155 160
 Gly Phe Val Ala Pro Lys Glu Ser Pro Phe Ser Glu Thr Ile Ile Ser
 165 170 175
 Trp Ile Glu Lys Lys
 180

<210> 9004

<211> 787

<212> PRT

<213> B.fragilis

<400> 9004

Arg Lys Glu Ala Leu Val Arg Arg Leu Lys Asn Ser Lys Gln Phe Asn
 1 5 10 15
 Lys Asn Met Lys Lys Leu Ile Leu Leu Ile Leu Ile Phe Ser Leu
 20 25 30
 Pro Val Ala Ala Gln Asn Phe Thr Ile Gly Lys Ser Thr Phe Leu Leu
 35 40 45
 Asn Gly Lys Pro Phe Thr Val Lys Ala Ala Glu Leu His Tyr Thr Arg
 50 55 60
 Ile Pro Ala Pro Tyr Trp Glu His Arg Ile Glu Met Cys Lys Ala Leu
 65 70 75 80
 Gly Met Asn Thr Ile Cys Leu Tyr Val Phe Trp Asn Ile His Glu Gln
 85 90 95
 Thr Glu Gly Gln Phe Asp Phe Thr Gly Gln Asn Asp Ile Ala Ala Phe
 100 105 110
 Cys Arg Leu Ala Gln Lys His Gly Met Tyr Val Ile Val Arg Pro Gly
 115 120 125
 Pro Tyr Val Cys Ala Glu Trp Glu Met Gly Gly Leu Pro Trp Trp Leu
 130 135 140
 Leu Lys Lys Asp Ile Ile Leu Arg Thr Leu Asp Pro Tyr Phe Met
 145 150 155 160
 Glu Arg Thr Ala Ile Phe Met Lys Glu Val Gly Lys Gln Leu Ala Pro
 165 170 175
 Leu Gln Ile Thr Arg Gly Gly Asn Ile Ile Met Val Gln Val Glu Asn
 180 185 190
 Glu Tyr Gly Ala Tyr Ala Val Asp Lys Pro Tyr Val Ser Ala Ile Arg
 195 200 205
 Asp Ile Val Lys Ser Ala Gly Phe Thr Glu Val Pro Leu Phe Gln Cys
 210 215 220
 Asp Trp Ser Ser Thr Phe Asp Arg Asn Gly Leu Asp Asp Leu Leu Trp
 225 230 235 240
 Thr Ile Asn Phe Gly Thr Gly Ala Asn Ile Glu Gln Gln Phe Lys Arg
 245 250 255
 Leu Lys Glu Ala Arg Pro Glu Thr Pro Leu Met Cys Ser Glu Phe Trp
 260 265 270
 Ser Gly Trp Phe Asp His Trp Gly Arg Lys His Glu Thr Arg Pro Ala
 275 280 285
 Lys Ser Met Val Gln Gly Ile Lys Asp Met Leu Asp Arg Asn Ile Ser
 290 295 300

Phe Ser Leu Tyr Met Ala His Gly Gly Thr Thr Phe Gly His Trp Gly
 305 310 315 320
 Gly Ala Asn Asn Pro Ser Tyr Ser Ala Met Cys Ser Ser Tyr Asp Tyr
 325 330 335
 Asp Ala Pro Ile Ser Glu Pro Gly Trp Thr Thr Asp Lys Tyr Phe Gln
 340 345 350
 Leu Arg Asp Leu Leu Arg Asn Tyr Leu Pro Ala Gly Glu Gln Leu Pro
 355 360 365
 Glu Ile Pro Glu Ala Phe Pro Val Ile Glu Ile Pro Glu Val Glu Phe
 370 375 380
 Thr Gln Ile Ala Pro Leu Phe Ser Asn Leu Pro Glu Ala Lys Glu Ser
 385 390 395 400
 Met Asp Ile Gln Pro Met Glu Ala Phe Asp Gln Gly Trp Gly Thr Ile
 405 410 415
 Leu Tyr Arg Thr Thr Leu Gln Glu Pro Val Glu Asn Gly Thr Thr Met
 420 425 430
 Lys Ile Thr Glu Val His Asp Trp Ala Gln Val Phe Ala Asp Gly Lys
 435 440 445
 Leu Leu Ala Arg Leu Asp Arg Arg Arg Gly Glu Phe Val Leu Gln Leu
 450 455 460
 Pro Ala Leu Lys Lys Gly Thr Arg Ile Asp Ile Leu Val Glu Ala Met
 465 470 475 480
 Gly Arg Val Asn Phe Asp Glu Ser Ile His Asp Arg Lys Gly Ile Thr
 485 490 495
 Glu Lys Val Glu Leu Val Arg Gly Lys Gln Ser Ala Glu Leu Lys Asn
 500 505 510
 Trp Thr Val Tyr Ser Phe Pro Val Asp Tyr Ser Phe Val Gln Asp Lys
 515 520 525
 Arg Tyr Lys Asn Gly Thr Ala Gln Thr Met Pro Ala Tyr Tyr Arg Thr
 530 535 540
 Thr Phe Arg Leu Asp Lys Val Gly Asp Thr Phe Leu Asp Met Ser Thr
 545 550 555 560
 Trp Gly Lys Gly Met Val Trp Val Asn Gly Leu Val Ile Gly Arg Phe
 565 570 575
 Trp Glu Ile Gly Pro Gln Gln Thr Leu Phe Met Pro Gly Cys Trp Leu
 580 585 590
 Lys Glu Gly Glu Asn Glu Ile Ile Val Leu Asp Leu Lys Gly Pro Glu
 595 600 605
 Lys Ala Ser Ile Arg Gly Leu Lys Lys Pro Ile Leu Asp Trp Leu Arg
 610 615 620
 Asn Glu Gly Ala Ser Thr His Arg Lys Glu Gly Glu Gln Leu Asp Leu
 625 630 635 640
 Ser Arg Glu Thr Pro Val Ala Glu Gly Thr Phe Val Pro Gly Asn Gly
 645 650 655
 Trp Gln Glu Val Cys Phe Asp Arg Gln Ser Ile Gly Arg Tyr Phe Cys
 660 665 670
 Leu Glu Ala Leu Ser Ala Gln Lys Gly Lys Lys Ile Ala Ala Ile Ala
 675 680 685
 Glu Leu Asp Val Leu Gly Ala Asp Gly Lys Pro Ile Ser Arg Glu Lys
 690 695 700
 Trp Arg Ile Arg Tyr Ala Asp Ser Glu Glu Thr Arg Ser Gly Asn Cys
 705 710 715 720
 Thr Gly Asp Lys Val Phe Asp Leu Gln Glu Ser Thr Tyr Trp Met Thr
 725 730 735
 Val Ala Lys Asp Ala Tyr Pro His Gln Leu Val Ile Asp Leu Gly Gly
 740 745 750
 Asp Tyr Thr Val Thr Gly Phe Arg Tyr Leu Pro Arg Ala Glu Lys Gly
 755 760 765
 Tyr Pro Gly Met Ile Lys Asp Tyr Arg Val Tyr Val Lys Gly Glu Asp

770
Phe Gln Tyr
785

775

780

<210> 9005
<211> 359
<212> PRT
<213> B.fragilis

<400> 9005
Gln Asn His Phe Asn Ile Lys Ser Met Arg Arg Lys Ile Met Met Ala
1 5 10 15
Thr Leu Ile Val Ile Ala Val Asn Phe Ile Trp Ser Gly Gln Pro Val
20 25 30
Lys Ala Cys Thr Arg Ala Val Tyr Ile Gly Pro Asp Asn Met Val Ile
35 40 45
Thr Gly Arg Thr Met Asp Trp Lys Glu Asp Ile Gln Ser Asn Leu Tyr
50 55 60
Leu Phe Pro Arg Gly Ile Lys Arg Ala Gly Tyr Asn Lys Gly Asn Thr
65 70 75 80
Val Glu Trp Ile Ser Lys Tyr Gly Ser Ile Val Ala Thr Gly Tyr Asp
85 90 95
Ile Gly Thr Cys Asp Gly Met Asn Glu Lys Gly Leu Val Ala Ser Leu
100 105 110
Leu Phe Leu Pro Glu Ser Ile Tyr Val Arg Pro Asn Asp Thr Arg Pro
115 120 125
Val Met Gly Ile Ser Ile Trp Thr Gln Tyr Val Leu Asp Asn Phe Ala
130 135 140
Thr Val Ser Glu Ala Val Ala Glu Leu Lys Lys Gln Thr Phe Arg Ile
145 150 155 160
Asp Ala Pro Asp Met Pro Asn Gly Ser Ala Ser Thr Leu His Met Ala
165 170 175
Ile Thr Asp Glu Thr Gly Asn Ser Ala Val Leu Glu Tyr Ile Asp Gly
180 185 190
Asn Leu Ile Ile His Glu Gly Lys Glu Tyr Gln Val Met Thr Asn Ser
195 200 205
Pro Arg Tyr Asp Leu Gln Leu Ala Val Asn Asp Tyr Trp Lys Glu Val
210 215 220
Gly Gly Leu Asn Met Leu Pro Gly Thr Asn Arg Ser Ser Asp Arg Phe
225 230 235 240
Val Arg Ala Ser Phe Tyr Ile His Ala Ile Pro Gln Thr Ser Asp Ala
245 250 255
Lys Ile Ala Val Pro Ser Val Leu Ser Val Met Arg Asn Val Ser Val
260 265 270
Pro Phe Gly Ile Thr Thr Pro Asp Lys Pro Tyr Ile Ser Ser Thr Arg
275 280 285
Trp Arg Ser Val Ser Asp Gln Lys Asn Arg Val Tyr Tyr Phe Glu Ser
290 295 300
Thr Leu Thr Pro Asn Leu Phe Trp Ile Asp Leu His Lys Val Asp Phe
305 310 315 320
Ser Pro Asn Ala Ser Ile Lys Lys Leu Ser Leu Thr His Gly Glu Val
325 330 335
Tyr Ala Gly Asp Val Val Lys Asp Phe Lys Asp Ser Arg Ser Phe Thr
340 345 350
Phe Met Phe Glu Leu Pro Lys
355

<210> 9006
<211> 471

<212> PRT
 <213> B.fragilis

<400> 9006

Ile Thr Asn Phe Leu Lys Gln Gln Pro Met Thr Leu Ile Lys Ser Ile
 1 5 10 15
 Ser Gly Ile Arg Gly Thr Ile Gly Gly Ala Gly Glu Gly Leu Asn
 20 25 30
 Pro Leu Asp Ile Val Lys Phe Thr Ser Ala Tyr Ala Thr Leu Ile Arg
 35 40 45
 Lys Thr Cys Lys Ser Lys Ser Asn Lys Ile Val Val Gly Arg Asp Ala
 50 55 60
 Arg Ile Ser Gly Glu Met Val Lys Asn Val Val Gly Thr Leu Met
 65 70 75 80
 Gly Met Gly Trp Asp Val Val Asp Ile Asp Leu Ala Ser Thr Pro Thr
 85 90 95
 Thr Glu Leu Ala Val Thr Met Glu Gly Ala Cys Gly Gly Ile Ile Leu
 100 105 110
 Thr Ala Ser His Asn Pro Lys Gln Trp Asn Ala Leu Lys Leu Leu Asn
 115 120 125
 Glu His Gly Glu Phe Leu Asn Ala Ala Glu Gly Gln Glu Val Leu Arg
 130 135 140
 Ile Ala Ala Ala Glu Glu Phe Asp Tyr Ala Asp Val Asp His Leu Gly
 145 150 155 160
 Ser Tyr Arg Lys Asp Leu Thr Tyr Asn Lys Lys His Ile Asp Ser Val
 165 170 175
 Leu Ala Leu Asp Leu Val Asp Val Glu Ala Ile Lys Lys Ala Asp Phe
 180 185 190
 Thr Val Ala Ile Asp Cys Val Asn Ser Val Gly Gly Ile Ile Leu Pro
 195 200 205
 Glu Leu Leu Glu Arg Leu Gly Val Lys His Val Glu Lys Leu Tyr Cys
 210 215 220
 Glu Pro Thr Gly Asn Phe Ala His Asn Pro Glu Pro Leu Glu Lys Asn
 225 230 235 240
 Leu Gly Asp Ile Met Asn Leu Met Lys Gly Gly Lys Ala Asp Val Ala
 245 250 255
 Phe Val Val Asp Pro Asp Val Asp Arg Leu Ala Met Ile Cys Glu Asn
 260 265 270
 Gly Val Met Tyr Gly Glu Glu Tyr Thr Leu Val Thr Val Ala Asp Tyr
 275 280 285
 Val Leu Lys His Thr Pro Gly Asn Thr Val Ser Asn Leu Ser Ser Thr
 290 295 300
 Arg Ala Leu Arg Asp Val Thr Arg Lys Tyr Gly Met Glu Tyr Asn Ala
 305 310 315 320
 Ser Ala Val Gly Glu Val Asn Val Val Thr Lys Met Lys Ala Thr Asn
 325 330 335
 Ala Val Ile Gly Gly Glu Gly Asn Gly Gly Val Ile Tyr Pro Ala Ser
 340 345 350
 His Tyr Gly Arg Asp Ala Leu Val Gly Ile Ala Leu Phe Leu Ser His
 355 360 365
 Leu Ala His Glu Gly Lys Lys Val Ser Glu Leu Arg Ala Thr Tyr Pro
 370 375 380
 Pro Tyr Phe Ile Ala Lys Asn Arg Val Asp Leu Thr Pro Glu Ile Asp
 385 390 395 400
 Val Asp Ala Ile Leu Ala Lys Val Lys Asp Ile Tyr Lys Asn Glu Glu
 405 410 415
 Ile Asn Asp Ile Asp Gly Val Lys Ile Asp Phe Ala Asp Lys Trp Val
 420 425 430
 His Leu Arg Lys Ser Asn Thr Glu Pro Ile Ile Arg Ile Tyr Ser Glu

435	440	445
Ala Ser Thr Met Glu Ala Ala Glu Glu Ile Gly Gln Lys Ile Met Asn		
450	455	460
Val Ile Asn Glu Leu Ala Lys		
465	470	

<210> 9007

<211> 304

<212> PRT

<213> B.fragilis

<400> 9007

Thr Asp Ser Tyr Asn Arg Tyr Arg His Trp Ala Gly Gln Ser Arg Gln			
1	5	10	15
Thr Leu Ser Pro Leu Val Pro Thr Arg Asn Thr Asn His Arg Arg Gln			
20	25	30	
Lys Leu His Arg Ser Tyr Thr Pro His Pro Glu Arg Pro Met Lys Ala			
35	40	45	
Ile Ile Ile Glu Asp Glu Lys Ala Ala Val Arg Asn Leu Thr Ser Leu			
50	55	60	
Leu Gly Glu Val Cys Pro Gln Ile Glu Ile Val Thr Glu Leu Asp Ser			
65	70	75	80
Ile Ala Asp Thr Ile Glu Trp Phe Thr Asp His Ser Met Pro Asp Leu			
85	90	95	
Val Phe Met Asp Ile His Leu Ala Asp Gly Ser Ala Phe Glu Ile Phe			
100	105	110	
Glu His Val His Ile Thr Cys Pro Ile Ile Phe Thr Thr Ala Tyr Asp			
115	120	125	
Glu Tyr Ala Leu Arg Ala Phe Lys Val Asn Ser Ile Asp Tyr Leu Leu			
130	135	140	
Lys Pro Ile Gly Arg Gln Asp Ile Glu Gln Ala Leu Glu Lys Leu Thr			
145	150	155	160
Leu Phe Ser Ser Gly Asn Ser Lys Pro Thr Gly Pro Glu Thr Asn Glu			
165	170	175	
Leu Val Asn Leu Met Arg Met Leu Lys Lys Gln Glu Ser Tyr Lys Thr			
180	185	190	
His Phe Leu Ile Pro Ile Lys Gly Asp Lys Leu Leu Pro Val Ser Val			
195	200	205	
Asp Met Ile Leu Leu Phe Tyr Ile Arg Asp Cys Gln Val Lys Ala Val			
210	215	220	
Leu Thr Asp Gly Thr Glu Tyr Ser Phe Pro Gln Thr Leu Asp Glu Leu			
225	230	235	240
Thr Glu Cys Leu Asp Pro Thr Leu Phe Phe Arg Ala Asn Arg Gln Tyr			
245	250	255	
Leu Leu Ser Arg Glu Ala Ile Lys Asp Ile Asp Leu Trp Phe Asn Ser			
260	265	270	
Arg Leu Ser Ile Asn Leu Arg His Ser Val Ser Gly Glu Lys Ile Leu			
275	280	285	
Val Ser Lys Ala Arg Val Ala Glu Phe Lys Glu Trp Phe Ser Val Lys			
290	295	300	

<210> 9008

<211> 85

<212> PRT

<213> B.fragilis

<400> 9008

Arg Phe Ser Leu Leu Pro Pro Lys Lys Leu Cys Arg Asp Thr Phe			
1	5	10	15

His His Gly Thr Gln Ser Asn Thr Glu Phe Phe Leu Leu Ile Ile Asn
 20 25 30
 Asn Leu Lys Leu Pro Leu Cys Tyr Ser Val Ser Val Val Ser Phe
 35 40 45
 Asn Thr Leu Asn Tyr Phe Phe Ser Ile Gln Leu Ile Ile Val Ser Glu
 50 55 60
 Lys Gly Leu Ser Leu Gly Ala Thr Lys Pro Thr Gln Phe Pro Phe Ser
 65 70 75 80
 Ser Ile Ile Asn Phe
 85

<210> 9009
 <211> 293
 <212> PRT
 <213> B.fragilis

<400> 9009
 Thr Met Lys Tyr Thr Asp Arg Glu Leu Asp Arg Leu Leu Glu Lys Leu
 1 5 10 15
 Ile Ala Ser Thr Arg Ser Pro Arg Gly Lys Phe Ser Ala Ala Ala Ser
 20 25 30
 Tyr Gln Ile Leu Glu Lys Arg Leu Pro Arg Pro Ala Leu Arg Leu Phe
 35 40 45
 Ser Leu Arg Thr Leu Ser Ala Val Ala Ile Ala Leu Leu Cys Phe
 50 55 60
 Ile Gly Trp Asn Thr Tyr Cys Tyr Leu Lys Pro Ala Ala Leu Gln Thr
 65 70 75 80
 Ile Ser Thr Leu Ala Asp Thr Arg Thr Ile Lys Leu Pro Asp Gly Thr
 85 90 95
 Glu Val Thr Leu Asn His Phe Ser Ser Leu Thr Tyr Pro Glu Lys Phe
 100 105 110
 Lys Gly Glu His Arg Glu Val Asn Leu Lys Gly Glu Ala Tyr Phe Glu
 115 120 125
 Val Thr Lys Asn Arg Lys His Ser Phe Ile Val Gln Thr Glu Ser Val
 130 135 140
 Asn Val Glu Val Leu Gly Thr His Phe Asn Val Glu Ser Tyr Pro Asp
 145 150 155 160
 Asp Pro Glu Val Lys Thr Thr Leu Leu Glu Gly Ser Val Ala Val Ser
 165 170 175
 Asn Lys Ser Asn Ser Val Arg Ile Val Leu Lys Pro Asn Glu Ser Ala
 180 185 190
 Ile Tyr Asn Lys Glu Lys Lys Ser Met Thr Leu Glu Val Ser Asp Arg
 195 200 205
 Val Ala Glu Glu Ile Ala Trp Arg Asn Gly Glu Leu Ile Phe Thr Asn
 210 215 220
 Leu Pro Leu Gln Glu Ile Ala Arg Gln Leu Ser Asn Thr Phe Gly Val
 225 230 235 240
 Asp Ile Ser Ile Thr Asp Thr Ala Leu Gln Asn Tyr Arg Ile Thr Ala
 245 250 255
 Arg Phe Ser Ser Glu Glu Gly Leu Asp Gln Ile Leu Asp Leu Leu His
 260 265 270
 Thr Val Gly Asn Phe Asn Tyr Ser Tyr Asn Asn Lys Glu Ile Thr Ile
 275 280 285
 Thr Thr Lys Leu Asn
 290

<210> 9010
 <211> 369
 <212> PRT

<213> B.fragilis

<400> 9010

Arg Arg Glu Tyr Arg Asn Asn Pro Val Tyr Cys Leu Ile Phe Val Pro
 1 5 10 15
 Met Lys Arg Ile Arg Ala Ile Tyr Asn Asp Lys Tyr Leu Leu Ser Thr
 20 25 30
 Leu Ile Ile Ser Leu Ala Val Ala Val Leu Ile His Phe Pro Glu Ser
 35 40 45
 Val Ser Leu Phe Asp Gly Phe Glu Ser His Thr Leu Phe Pro Gly Met
 50 55 60
 Lys Phe Ala Asp Val Ala Asn Glu Ile Leu Phe Thr Phe Leu Ser Leu
 65 70 75 80
 Leu Ile Leu Phe Ala Val Asn Thr Arg Leu Phe His Phe Asn Gln Thr
 85 90 95
 Ser Met Lys Ile Thr Trp Gln Lys Ile Ile Leu Ser Phe Val Leu Thr
 100 105 110
 Trp Ile Leu Ser Asn Phe Leu Gly Gln Cys Phe Val Tyr Leu His Lys
 115 120 125
 Thr Phe Asp Ile Pro Ala Ile Asp Ala Met Val His His Tyr Leu His
 130 135 140
 Pro Leu Arg Asp Phe Ile Met Ser Ser Leu Val Thr Ser Ser Cys Tyr
 145 150 155 160
 Ile Ile Tyr Leu Ile Arg Arg Gln Gln Gln Val Ile Val Glu Asn Glu
 165 170 175
 Gln Leu Lys Ala Glu Asn Ile Arg Asn Gln Phe Glu Val Leu Lys Asn
 180 185 190
 Gln Leu Asn Pro His Met Leu Phe Asn Ser Leu Asn Thr Leu Arg Ser
 195 200 205
 Leu Val Arg Glu Asn Gln Asp Arg Ala Gln Asp Tyr Ile Gln Glu Leu
 210 215 220
 Ser Arg Val Leu Arg Tyr Thr Leu Gln Gly Asn Glu Ser Gln Cys Val
 225 230 235 240
 Thr Leu Arg Glu Glu Met Asp Phe Val Ser Ala Tyr Ile Phe Leu Leu
 245 250 255
 Lys Met Arg Phe Glu Asp Asn Leu Arg Phe Glu Ile Asn Ile Thr His
 260 265 270
 Asn Ser Glu Glu Tyr Leu Leu Pro Pro Met Ser Ile Gln Met Leu Ile
 275 280 285
 Glu Asn Ala Val Lys His Asn Glu Ile Ser Asn Arg Arg Pro Leu Thr
 290 295 300
 Ile Thr Ile Ala Thr Asp Ser Glu Glu Gly Leu Leu Val Ser Asn Pro
 305 310 315 320
 Ile Gln Ser Lys Leu Thr Ala Thr Thr Gly Thr Gly Ile Gly Leu Val
 325 330 335
 Asn Leu Asp Lys Arg Tyr Arg Leu Leu Phe Arg Gln Glu Ile Gln Ile
 340 345 350
 Thr Glu Asp Arg Asn Phe Thr Val Arg Ile Pro Leu Ile Arg Lys Asp
 355 360 365
 Leu

<210> 9011

<211> 465

<212> PRT

<213> B.fragilis

<400> 9011

Ile Asp Leu Tyr Leu Cys Thr Leu Lys Ile Ile Gly Met Thr Gly Gln

<210> 9012
<211> 118
<212> PRT
<213> B.fragilis

<400> 9012
Asn Pro Tyr Leu Cys Arg Lys Ile Thr Asn Cys Met Asn Ile Tyr Thr
1 5 10 15
Glu Asp Glu Ala Leu Ile Glu Leu Leu Glu Glu Gly Cys Thr Asn Asp
20 25 30
Lys Arg Tyr Lys Arg Leu Pro Lys Asp Val Ile Lys Gly Tyr Ile Lys
35 40 45
Ala Tyr Asn His Leu Lys Ala Ala Thr Arg Ile Glu Asp Leu Phe Arg
50 55 60
Ile Gly Ser Leu His Tyr Glu Arg Leu Lys Gly Asp Leu Lys Asp Phe
65 70 75 80
Glu Ser Val Arg Cys Thr Gly Arg Trp Arg Leu Ile Phe Gln Ser Ser
85 90 95
Thr Ile Asp Gly Ser Leu Ile Ile Thr Glu Ile Glu Leu Ile Glu Ile
100 105 110
Ser Asn His Tyr Gly Asp
115

<210> 9013
<211> 532
<212> PRT
<213> B.fragilis

<400> 9013
Pro Gly Cys Gln Phe Phe Ser Asp Leu Phe Ser Ala Thr Ala Gln Leu
1 5 10 15
Thr Ala Asp Ile Asp Asp Ile Ile Thr Ile His Ser Thr Phe Val Tyr
20 25 30
Trp Phe Asn Ser Lys His Thr His Tyr Phe Arg Lys Lys Lys Ile Asn
35 40 45
Asn Val Pro Ile Tyr Arg Val Pro His Phe Leu Ser Ile Gly Asn Phe
50 55 60
Tyr Pro Phe Ser Glu Ser Tyr Leu Cys Ser Arg Lys Lys Ile Asn Ile
65 70 75 80
Val Phe Met Lys Asp Ser Ile Asp Phe Gly Asn Met Glu Ile Pro Arg
85 90 95
Leu Phe Arg Lys Leu Leu Ile Pro Thr Val Leu Gly Met Val Phe Ser
100 105 110
Ala Val Phe Val Ile Thr Asp Gly Ile Phe Val Gly Lys Gly Ile Gly
115 120 125
Ser Asp Ala Leu Ala Ala Val Asn Ile Thr Ala Pro Leu Phe Met Ile
130 135 140
Thr Thr Gly Ile Gly Leu Met Phe Gly Val Gly Ala Ser Val Val Ala
145 150 155 160
Ser Ile His Leu Ser Gln Gly Lys Arg Lys Val Ala Ser Ile Asn Ile
165 170 175
Thr Gln Ala Leu Ala Phe Ser Ala Leu Leu Ile Leu Val Leu Ser Ala
180 185 190
Leu Cys Cys Tyr Phe Ala Glu Pro Ile Gly Arg Leu Leu Gly Ser Ser
195 200 205
Glu Arg Leu Leu Pro Leu Val Val Glu Tyr Met Asn Trp Tyr Val Pro
210 215 220
Phe Leu Val Phe Tyr Leu Leu Ser Ala Gly Met Phe Tyr Ile Arg

225	230	235	240
Leu Asp Gly Ser Pro Asn Tyr Ala Met Met Cys Asn Ala Val Ser Ala			
245	250	255	
Ile Ile Asn Ile Ile Leu Asp Tyr Val Phe Ile Phe Gln Leu Gly Trp			
260	265	270	
Gly Met Met Gly Ala Ala Phe Ala Thr Ser Leu Gly Thr Met Val Gly			
275	280	285	
Gly Leu Met Thr Leu Ile Tyr Leu Leu Arg Phe Ser Arg Asn Val Gly			
290	295	300	
Ile Tyr Arg Ile Lys Leu Ser Arg Lys Ser Met Arg Leu Thr Cys Arg			
305	310	315	320
Asn Ile Gly Tyr Met Ile Arg Leu Gly Ser Ser Ala Phe Ile Ser Glu			
325	330	335	
Ala Ser Ile Ala Ser Met Met Phe Leu Gly Asn Tyr Val Phe Ile Ser			
340	345	350	
His Leu Gly Glu Ser Gly Val Ala Ala Phe Ser Ile Val Cys Tyr Phe			
355	360	365	
Phe Pro Ile Ile Phe Met Val Tyr Asn Ala Ile Ala Gln Ser Ala Gln			
370	375	380	
Pro Ile Ile Ser Tyr Asn Phe Gly Gln Gln Asn Pro Gly Arg Val Ala			
385	390	395	400
Arg Thr Ile Arg Leu Ala Leu Lys Thr Ala Leu Gly Cys Gly Ile Phe			
405	410	415	
Phe Phe Ala Ala Thr Leu Val Phe Asn His Gln Ile Val Gly Leu Phe			
420	425	430	
Ile Asp Lys Ser Tyr Gln Ala Tyr Asp Ile Ala Val Asn Gly Ile Pro			
435	440	445	
Tyr Phe Ala Val Gly Tyr Leu Phe Phe Ala Leu Asn Ile Val Gly Ile			
450	455	460	
Gly Tyr Tyr Gln Ser Ile Glu Arg Ala Arg Arg Ala Thr Val Ile Thr			
465	470	475	480
Leu Phe Arg Gly Thr Leu Phe Met Leu Ala Gly Phe Leu Leu Leu Pro			
485	490	495	
Pro Val Leu Gly Val Arg Gly Ile Trp Leu Ala Val Pro Leu Gly Glu			
500	505	510	
Leu Leu Thr Leu Leu Ile Ile Gly Ile Tyr Leu Lys Asp Ser Phe			
515	520	525	
Ala Val Arg Arg			
530			

<210> 9014

<211> 169

<212> PRT

<213> B.fragilis

<400> 9014

Pro Phe Ile Gln Ser Thr Met Gly Leu Ile Tyr Leu Val Arg Lys Lys			
1	5	10	15
Lys Phe Arg Thr Ala Glu Gly Ile Arg Glu Leu Tyr Phe Ala Ile Gln			
20	25	30	
Arg Lys Leu Gln Lys Arg Gly Gly Lys Asn Glu Glu Asp Leu Ala Glu			
35	40	45	
Ile Leu Ser Ala Asn Ser Ser Arg Ser Lys Gly Glu Val Leu Ser Ile			
50	55	60	
Leu Thr Asp Leu Pro Asp Val Ile Glu Glu Ile Leu Lys Asn Gly Glu			
65	70	75	80
Ser Val Ser Ile Arg Gly Leu Gly Ser Phe His Ala Ser Ile Thr Ser			
85	90	95	
Asn Gly Phe Glu His Pro Glu Asp Val Leu Pro His Glu Val Arg Val			

100	105	110
Ser Lys Val Tyr Phe Ile Ala Asp Arg Lys Phe Thr Gln Arg Val Ser		
115	120	125
Arg Met Lys Phe Phe Arg Tyr Pro Leu Ser Lys Tyr Phe Pro Lys Asp		
130	135	140
Leu Leu Arg Pro Glu Thr Ile Arg Glu Glu Glu Thr Arg Glu Glu Glu		
145	150	155
Pro Glu Phe Ile Pro Asp Asp Asp Glu		
165		

<210> 9015

<211> 145

<212> PRT

<213> B.fragilis

<400> 9015

Ile Ser Arg Gln Leu Thr Phe Val Pro Thr Phe Lys His Leu Lys Thr			
1	5	10	15
Met Phe Lys Ala Ile Val Arg Phe Ser Ile Lys Lys Lys Leu Phe Val			
20	25	30	
Gly Leu Thr Thr Leu Phe Leu Leu Ile Gly Gly Ile Tyr Ala Met Leu			
35	40	45	
Thr Leu Pro Ile Asp Ala Val Pro Asp Ile Thr Asn Asn Gln Val Gln			
50	55	60	
Ile Val Thr Val Ser Pro Thr Leu Ala Pro Gln Glu Val Glu Gln Leu			
65	70	75	80
Ile Thr Met Pro Ile Glu Ile Ala Met Ser Asn Ile Met Asn Val Glu			
85	90	95	
Asp Ile Arg Phe Val Ser Arg Phe Arg Leu Ser Val Val Thr Val Val			
100	105	110	
Phe Lys Glu Ser Val Pro Thr Leu Asp Ala Arg Gln Leu Ile Asn Glu			
115	120	125	
Gln Ile Gln Ser Val Ala Gly Glu Asn Pro Pro Glu Leu Gly Met Pro			
130	135	140	

Lys

145

<210> 9016

<211> 240

<212> PRT

<213> B.fragilis

<400> 9016

Glu Met Arg His Ser Val Tyr Trp Tyr Ile Ile Tyr Phe Leu Leu Ser			
1	5	10	15
Glu Ile Met Cys Met Phe Ala Ile Glu Pro Ile Tyr Lys Ser Thr Met			
20	25	30	
Asn Gly Asn Tyr Val Ile Asn Ile Gly Arg Gln Leu Gly Ser Gly Gly			
35	40	45	
Lys Glu Ile Gly Glu Lys Leu Ala Ala Arg Leu Gly Ile Asp Phe Tyr			
50	55	60	
Asp Lys Glu Leu Ile Asn Leu Ala Ser Glu Glu Ser Gly Leu Cys Arg			
65	70	75	80
Glu Phe Phe Glu Lys Ala Asp Glu Lys Ala Ser Gln Gly Ile Ile Gly			
85	90	95	
Gly Leu Phe Gly Met Arg Phe Pro Phe Ile Ser Asp Gly Ala Met Pro			
100	105	110	
Cys Thr Asn Cys Leu Ser Asn Asp Ala Leu Phe Lys Ile Gln Ser Asp			
115	120	125	

Val Ile Arg His Leu Ala Ala Asn Lys Ser Cys Val Phe Val Gly Arg
 130 135 140
 Cys Ala Asp Tyr Ile Leu Arg Glu His Pro Arg Cys Ala Asn Ile Phe
 145 150 155 160
 Ile Ser Ala Ser Gln Glu Asp Arg Ile Ala Arg Leu Cys Arg Ile His
 165 170 175
 Gly Ile Ser Glu Glu Ala Ala Ala Glu Lys Met Asn Lys Ala Asp Lys
 180 185 190
 Lys Arg Ser Glu Tyr Tyr Asn Tyr Tyr Ser Tyr Lys Thr Trp Gly Ala
 195 200 205
 Ala Ala Thr Tyr His Leu Cys Ile Asp Ser Ser Val Leu Gly Ile Asp
 210 215 220
 Glu Thr Val Arg Phe Ile Glu Glu Phe Val Val Lys Lys Leu Ala Leu
 225 230 235 240

<210> 9017

<211> 779

<212> PRT

<213> B.fragilis

<400> 9017

Tyr His Ile Lys Asn Asn Pro Ile Phe Ile Pro Met Thr Lys Pro Ser
 1 5 10 15
 Tyr Lys Gln Trp Ile Ala Ala Cys Thr Leu Thr Ser Thr Leu Leu
 20 25 30
 Gly Ala Cys Gly Ser Ala Pro Val Thr Arg Asp Ala Ser Ile Val Pro
 35 40 45
 Leu Pro Asn Gln Ile Gln Gln Ser Gly Asn Ala Phe Val Leu Thr Pro
 50 55 60
 Asn Thr Thr Ile Gly Thr Thr Asp Pro Glu Leu Gln Pro Ala Ala Gln
 65 70 75 80
 Tyr Leu Lys Glu Ile Leu Ser Ala Ala Thr Gly Tyr Asp Leu Gln Val
 85 90 95
 Lys Glu Gly Lys Gly Thr Ile Thr Leu Ala Lys Ala Asn Ile Glu Gly
 100 105 110
 Lys Glu Gly Ala Tyr Thr Leu Ser Ala Lys Ser Asp Arg Ile Asp Ile
 115 120 125
 Thr Gly Asn Ser Tyr Gly Gly Val Ile Ala Gly Ile Glu Ser Leu Arg
 130 135 140
 Gln Leu Phe Pro Pro Gln Ile Glu Ser Lys Gln Ile Val Asp Ser Val
 145 150 155 160
 Ala Trp Ala Ile Pro Thr Ala Glu Ile Gln Asp Ala Pro Arg Phe Glu
 165 170 175
 Trp Arg Gly Ile Met Leu Asp Val Ser Arg His Phe Tyr Thr Lys Glu
 180 185 190
 Glu Val Lys Glu Leu Leu Asp Leu Met Ala Leu Tyr Lys Met Asn Lys
 195 200 205
 Phe His Trp His Leu Thr Asp Asp Gln Gly Trp Arg Ile Glu Ile Lys
 210 215 220
 Lys Tyr Pro Leu Leu Thr Glu Lys Gly Ala Trp Arg Thr Phe Asn Ser
 225 230 235 240
 His Asp Arg Ser Cys Met Lys Ser Ala Lys Ser Glu Asp Asn Pro Asp
 245 250 255
 Phe Leu Ile Pro Glu Asn Lys Leu Arg Ile Ile Glu Gly Asp Thr Leu
 260 265 270
 Tyr Gly Gly Tyr Tyr Thr Gln Glu Asp Ile Lys Glu Val Ile Glu Tyr
 275 280 285
 Ala Lys Val Arg Gly Ile Asp Ile Ile Pro Glu Ile Asp Met Pro Gly
 290 295 300

His Met Leu Ala Ala Val Ser Asn Tyr Ser Gly Val Ala Cys Thr Asp
 305 310 315 320
 Lys Val Gly Trp Gly Thr Thr Phe Ser Ser Pro Val Cys Pro Gly Lys
 325 330 335
 Glu Ser Ala Met Glu Phe Cys Lys Asn Val Tyr Ser Glu Leu Ile Asp
 340 345 350
 Leu Phe Pro Tyr Lys Tyr Val His Ile Gly Gly Asp Glu Val Glu Lys
 355 360 365
 Ala Asn Trp Lys Lys Cys Pro Asp Cys Gln Lys Arg Met Arg Asp Asn
 370 375 380
 His Leu Lys Thr Glu Glu Leu Gln Ser Trp Phe Ile His Asp Met
 385 390 395 400
 Glu Lys Phe Phe Asn Ala Lys Gly Lys Glu Met Ile Gly Trp Asp Glu
 405 410 415
 Ile Ile Glu Gly Leu Ser Pro Thr Ala Thr Val Met Trp Trp Arg
 420 425 430
 Ser Trp Ala Lys Asp Ala Pro Ala Lys Thr Thr Gln Gln Gly Asn Ser
 435 440 445
 Ile Ile Phe Thr Pro Asn Gly Gln Phe Tyr Leu Asp Tyr Gln Glu Asp
 450 455 460
 Lys Asn Ser Val Arg Asn Ile Tyr Asn Phe Asn Pro Ala Ile Glu Gly
 465 470 475 480
 Leu Thr Ser Glu Gln Gln Ala Leu Val Lys Gly Val Gln Gly Asn Ile
 485 490 495
 Trp Cys Glu Trp Ile Pro Ser Arg Glu Arg Met Gln Tyr Met Ala Val
 500 505 510
 Pro Arg Leu Leu Ala Ile Ala Glu Leu Gly Trp Ser Gln Pro Ser Gln
 515 520 525
 Lys Asn Trp Asn Asp Phe Ala Gln Arg Met Ala Asn Gln Phe Glu Arg
 530 535 540
 Leu Asn Ile Met Gly Ile Asn Tyr Arg Ile Pro Asp Leu Glu Gly Phe
 545 550 555 560
 His Arg Asn Asn Ala Phe Ile Gly Glu Gly Thr Val Lys Val Thr Cys
 565 570 575
 Leu Asp Pro Asn Ala Glu Ile His Tyr Thr Asp Gly Ser Thr Pro
 580 585 590
 Thr Leu Gln Ser Pro Lys Tyr Glu Gly Pro Ile Gln Val Lys Glu Thr
 595 600 605
 Thr Asp Phe Thr Phe Arg Thr Phe Arg Pro Asn Gly Lys Ala Gly Asp
 610 615 620
 Ile Ser Arg Thr Arg Phe Ile Lys Ser Glu Tyr Ala Pro Ala Thr Thr
 625 630 635 640
 Val Thr Pro Ser Ala Lys Gly Leu Gln Ala Glu Trp Tyr Glu Phe Lys
 645 650 655
 Gly Asn Lys Cys Ala Asp Ile Thr Lys Ala Pro Leu Asn Gly Thr Tyr
 660 665 670
 Pro Ile Glu Lys Val Met Ile Pro Glu Lys Ala Lys Gly Asn Ile Gly
 675 680 685
 Leu Val Ile Lys Gly Phe Ile Asn Val Pro Lys Asp Asp Ile Tyr Thr
 690 695 700
 Phe Ala Leu Leu Ser Asp Asp Gly Ser Thr Leu Val Ile Asp Gly Glu
 705 710 715 720
 Gln Val Ile Asp Asn Asp Gly Pro His Gly Pro Arg Glu Val Ile Gly
 725 730 735
 Gln Lys Ala Leu Ser Lys Gly Tyr His Pro Ile Glu Val Arg Tyr Phe
 740 745 750
 Asp Gln Asn Gly Gly Gln Leu Lys Met Thr Val Thr Gly Thr Glu Gly
 755 760 765
 Asn Glu Ile Pro Thr Ser Asp Leu Tyr Ala Asn

770

775

<210> 9018
<211> 580
<212> PRT
<213> B.fragilis

<400> 9018

Leu	Thr	Pro	Lys	Gly	Phe	Leu	Ile	Arg	Lys	Phe	Ile	Pro	Thr	Phe	Ala
1					5				10						15
Gln	Ile	Phe	Lys	Lys	Arg	Ala	Met	Ile	Lys	Glu	Asn	Phe	Ile	Lys	Leu
							20		25					30	
Tyr	Glu	Asn	Ser	Phe	Arg	Glu	Asn	Trp	Asp	Leu	Pro	Cys	Tyr	Thr	Asn
					35				40			45			
Tyr	Gly	Glu	Pro	Glu	Ser	Tyr	Thr	Tyr	Gly	Glu	Val	Ala	Glu	Glu	Ile
					50				55			60			
Ala	Lys	Leu	His	Leu	Leu	Phe	Lys	His	Cys	Ser	Leu	Arg	Arg	Gly	Asp
						65			70		75			80	
Lys	Ile	Ala	Val	Ile	Gly	Lys	Asn	Asn	Ala	Arg	Trp	Cys	Ile	Ala	Tyr
						85			90			95			
Met	Ala	Thr	Ile	Thr	Tyr	Gly	Ala	Ile	Ile	Val	Pro	Ile	Leu	Gln	Asp
						100			105			110			
Phe	Asn	Pro	Asn	Asp	Val	His	His	Ile	Val	Asn	His	Ser	Glu	Ser	Val
						115			120			125			
Phe	Leu	Phe	Thr	Ser	Asp	Thr	Ile	Trp	Glu	Asn	Leu	Glu	Glu	Glu	Arg
						130			135			140			
Leu	Thr	Gly	Ile	Arg	Ala	Val	Phe	Ser	Leu	Thr	Asp	Phe	Arg	Cys	Leu
						145			150		155			160	
His	Gln	Arg	Asp	Gly	Glu	Thr	Val	Gln	Lys	Phe	Leu	Lys	His	Ile	Asp
						165			170			175			
Gln	Tyr	Met	Thr	Asp	Thr	Tyr	Pro	Lys	Gly	Phe	Arg	Lys	Glu	Asp	Val
						180			185			190			
Leu	Tyr	Thr	Thr	Leu	Ser	Asn	Asp	Lys	Val	Met	Leu	Leu	Asn	Tyr	Thr
						195			200			205			
Ser	Gly	Thr	Thr	Gly	Phe	Ser	Lys	Gly	Val	Met	Leu	Thr	Gly	Asn	Asn
						210			215			220			
Leu	Ala	Gly	Asn	Val	Thr	Phe	Gly	Ile	Arg	Thr	Glu	Leu	Leu	Lys	Lys
						225			230		235			240	
Gly	Asp	Lys	Val	Leu	Ser	Phe	Leu	Pro	Leu	Ala	His	Ala	Tyr	Gly	Cys
						245			250			255			
Ala	Phe	Asp	Phe	Leu	Thr	Ala	Thr	Ala	Val	Gly	Thr	His	Val	Thr	Leu
						260			265			270			
Leu	Gly	Lys	Val	Pro	Ser	Pro	Lys	Ile	Ile	Met	Lys	Ala	Phe	Glu	Glu
						275			280			285			
Val	Lys	Pro	Asn	Leu	Ile	Ile	Thr	Val	Pro	Leu	Val	Ile	Glu	Lys	Ile
						290			295			300			
Tyr	Lys	Asn	Val	Ile	Gln	Pro	Ile	Ile	Ser	Lys	Lys	Gly	Met	Lys	Trp
						305			310		315			320	
Ala	Leu	Ser	Ile	Pro	Leu	Leu	Asp	Asn	Gln	Ile	Tyr	Gly	Gln	Ile	Arg
						325			330			335			
Lys	Lys	Leu	Ile	Asp	Ala	Leu	Gly	Gly	Arg	Phe	Lys	Glu	Ile	Ile	Ile
						340			345			350			
Gly	Gly	Ala	Ala	Met	Asn	Pro	Glu	Val	Glu	Glu	Phe	Phe	His	Lys	Ile
						355			360			365			
Lys	Phe	Pro	Phe	Thr	Ile	Gly	Tyr	Gly	Met	Thr	Glu	Cys	Gly	Pro	Leu
						370			375			380			
Ile	Ser	Tyr	Ala	Pro	Trp	Asp	Lys	Phe	Val	Pro	Ser	Ser	Ser	Gly	Lys
						385			390		395			400	
Ile	Leu	Asp	Ile	Met	Glu	Ala	Arg	Ile	Tyr	Lys	Glu	Asn	Pro	Glu	Ala

	405	410	415												
Glu	Thr	Gly	Glu	Ile	Gln	Val	Arg	Gly	Glu	Asn	Val	Met	Thr	Gly	Tyr
				420				425					430		
Tyr	Lys	Asn	Pro	Glu	Ala	Thr	Gln	Glu	Val	Phe	Thr	Lys	Asp	Gly	Trp
				435				440				445			
Leu	Arg	Thr	Gly	Asp	Leu	Gly	Thr	Met	Asp	Asp	Glu	Gly	Asn	Ile	Phe
				450				455			460				
Ile	Arg	Gly	Arg	Leu	Lys	Thr	Met	Ile	Leu	Ser	Ser	Ser	Gly	Gln	Asn
				465				470		475			480		
Ile	Phe	Pro	Glu	Glu	Ile	Glu	Ala	Lys	Leu	Asn	Asn	Leu	Pro	Phe	Ile
				485				490				495			
Leu	Glu	Ser	Leu	Val	Ile	Glu	Arg	Asn	Lys	Lys	Leu	Val	Ala	Leu	Val
				500				505			510				
Tyr	Ala	Asp	Tyr	Glu	Ala	Leu	Asp	Ser	Leu	Gly	Leu	Asn	His	Glu	Asp
				515				520			525				
Asn	Leu	Lys	Thr	Ile	Met	Asp	Glu	Asn	Leu	Lys	Asn	Leu	Asn	Asn	Asn
				530				535			540				
Val	Ala	Ala	Tyr	Glu	Lys	Val	Ser	Gln	Ile	Gln	Leu	Tyr	Pro	Thr	Glu
				545				550		555			560		
Phe	Glu	Lys	Thr	Pro	Lys	Arg	Ser	Ile	Lys	Arg	Tyr	Leu	Tyr	Asn	Ser
				565				570				575			
Ile	Ala	Glu	Asp												
				580											

<210> 9019

<211> 69

<212> PRT

<213> B.fragilis

<400> 9019

Leu	Glu	Tyr	Asn	Asn	Leu	Leu	Lys	Tyr	Thr	His	Met	Lys	Gly	Leu	Leu
					1		5		10		15				
Lys	Asn	Leu	Gly	Leu	Leu	Leu	Ile	Leu	Val	Gly	Val	Ile	Ile	Leu	Ile
							20		25		30				
Ala	Cys	Ser	Leu	Thr	Gly	Glu	Val	Asn	Asn	Asn	Ala	Val	Leu	Gly	Gly
					35		40			45					
Ser	Ile	Val	Leu	Val	Val	Leu	Gly	Leu	Ile	Thr	Tyr	Ile	Ala	Ile	Asn
					50		55			60					
Lys	Arg	Ile	Ala	Asp											
				65											

<210> 9020

<211> 477

<212> PRT

<213> B.fragilis

<400> 9020

Asn	Thr	Asn	Lys	Met	Lys	Lys	Leu	Leu	Ile	Leu	Leu	Leu	Val	Leu	
				1			5		10		15				
Ala	Gly	Glu	Ile	Ser	Ala	Gln	Gln	Ala	Ala	Thr	Ile	Val	Val	Lys	Thr
							20		25		30				
Thr	Pro	Asp	Asn	Glu	Ile	Ala	Tyr	Trp	Pro	Thr	Gly	Lys	Glu	His	Leu
					35		40			45					
Phe	Cys	Ile	Ala	Leu	Gly	Thr	Lys	Ala	Gln	Ala	Gly	Pro	Leu	Gly	Glu
					50		55			60					
Phe	Val	His	Gln	Phe	Arg	Thr	Asp	Arg	Pro	Gly	Met	Val	Gln	Val	Trp
				65			70		75		80				
Thr	Gln	Gly	Ser	Asp	Ser	Phe	Thr	Leu	Tyr	Leu	Thr	Pro	Gly	Ser	Lys
					85			90			95				

Asp Thr Ile Thr Val Thr Lys Asp Thr Leu Ile Ile Ser Gly Thr Asn
 100 105 110
 Ser Ala Tyr Asn Arg Cys Leu Lys Thr Val Asn Asp Tyr Gln Lys Tyr
 115 120 125
 Ser Asp Lys Leu Val Tyr Met Gln Pro His Glu Leu Arg Gly Ile Thr
 130 135 140
 Ser Leu Glu Gln Tyr His Arg Leu Ala Asp Ala Arg Met Arg Gln Ala
 145 150 155 160
 Leu Asp Ala Val Asn Thr Ser Gly Leu Asn Glu Glu Phe Leu Ala Glu
 165 170 175
 Gln Arg Ala His Ile Asp Tyr Ile Arg Arg Ser Ile Phe Ile His Ile
 180 185 190
 Ala Arg Gln Leu Ser Arg Lys Glu Lys Leu Pro Glu Asp Trp Gln Arg
 195 200 205
 Glu Leu Thr Glu Val Ile Asn Ser Ser Val Asn Gly Asp Tyr Leu Arg
 210 215 220
 Ser Tyr Arg Gly Ile Gly Phe Phe Val Asn Asp Leu Val Met Met Gln
 225 230 235 240
 Phe Thr Asn Leu Glu Asn Gly Asp Leu Lys Glu Ile Lys Asp Tyr Ala
 245 250 255
 Ser Phe Leu Phe Asp Arg Tyr Arg Lys Phe Phe Thr Gly Asp Asn Leu
 260 265 270
 Gln Tyr Met Gln Ala Gln Leu Ile Tyr Glu Asp Glu Phe Gln Gly Ser
 275 280 285
 Lys Thr Pro Ser Ile Pro Gln Leu Tyr Glu Thr Tyr Arg Ala Glu Phe
 290 295 300
 Pro Asn Ser Pro Phe Leu Asn Val Leu Glu Pro Gly Val Lys Glu Asn
 305 310 315 320
 Leu Arg Phe Gln Asn Ser Arg Ile Thr Asp Lys Asp Tyr His Ile Leu
 325 330 335
 Thr Cys Asp Ser Thr Ile Thr Ser Leu Glu Asp Ala Val Lys Pro Phe
 340 345 350
 Lys Gly Lys Val Val Tyr Ile Asp Val Trp Ala Thr Trp Cys Gly Pro
 355 360 365
 Cys Leu Lys Glu Phe Gln Tyr Leu Pro Ala Leu Lys Glu Lys Ala His
 370 375 380
 Asn Met Asp Val Val Tyr Leu Tyr Ile Ser Ile Asp Arg Pro Glu Glu
 385 390 395 400
 Arg Lys Lys Trp Glu Lys Thr Ile Ala Tyr His Gln Leu Lys Gly Tyr
 405 410 415
 His Leu Leu Val Asn Glu Lys Leu Gly Lys Ser Leu Tyr Thr Glu Leu
 420 425 430
 Gly Asn Glu Arg Gln Ile Leu Ser Ile Pro Cys Phe Val Ile Ile Asp
 435 440 445
 Lys Thr Gly Lys Ile Val Ile Arg His Ala Ala Ala Pro Ser Glu Pro
 450 455 460
 Glu Lys Val Ile Glu Gln Leu Ser Thr Tyr Tyr Asn Lys
 465 470 475

<210> 9021

<211> 423

<212> PRT

<213> B.fragilis

<400> 9021

Lys Ser Asn Lys Lys Asn Pro Phe Thr Leu Ser Arg Phe Arg Asn Ser
 1 5 10 15
 Val Cys Leu Phe Met Lys Arg Arg Lys Met Glu Lys Asn His Tyr Ile
 20 25 30

His Tyr Thr Ala Ala Asp Leu Leu Asn Asp Gly Thr Phe Leu Asp Ser
 35 40 45
 Met Gln His Pro Thr Glu Gln Ser Glu Lys Phe Trp Ser Gln Leu Glu
 50 55 60
 Lys Glu Asn Glu Thr Phe Ala Gly Glu Leu Arg Met Ala Arg Ser Phe
 65 70 75 80
 Leu Met Ala Val Ala Glu Ser Pro Gln Lys Arg Met Thr Asp Asp Glu
 85 90 95
 Val Gly Thr Leu Trp Glu Arg Ile Ser Arg Gln Val Ala Met Glu Lys
 100 105 110
 Arg Val Lys Arg Lys Lys Gln Leu Leu Phe Leu Arg Val Ala Gly Ile
 115 120 125
 Ala Ala Cys Ile Ser Val Leu Ala Leu Ser Ser Tyr Phe Val Phe Ser
 130 135 140
 Leu Ile Ser Phe Tyr Glu Glu Ser Ser Cys Tyr Ser Leu Ala Gly Ile
 145 150 155 160
 Ser Glu Pro Asp Ser Ser Asn Asp Ile Gln Leu Ile Leu Ser Glu Gly
 165 170 175
 Arg Lys Leu Val Met Asp Gly Lys Glu Ser Arg Leu His Tyr Lys Glu
 180 185 190
 Gly Gly Lys Ile Ala Ile Ser Ser Gly Lys Thr Gln Leu Asp Glu Glu
 195 200 205
 Asn Glu Thr Gly Tyr Asn Gln Leu Ile Val Pro Ser Gly Lys Arg Ser
 210 215 220
 Phe Ile Thr Phe Ser Asp Gly Thr Arg Val Ala Val Asn Ala Asn Thr
 225 230 235 240
 Arg Ile Val Tyr Pro Ser Glu Phe Ser Gly His Lys Arg Glu Ile Tyr
 245 250 255
 Val Asn Gly Glu Val Tyr Leu Gln Val Ser Pro Asp Lys Lys His Pro
 260 265 270
 Phe Val Val Lys Thr Asn Arg Met Glu Val Glu Val Leu Gly Thr Glu
 275 280 285
 Phe Asn Val Ser Ala Tyr Asp Phe Thr Lys Asn Gln Ser Val Val Leu
 290 295 300
 Val Ser Gly Lys Val Glu Val Asp Thr Tyr Lys Tyr Pro Lys Lys Val
 305 310 315 320
 Leu Lys Pro Asn Asp Met Leu Thr Tyr Asp Gly Gln Asp Asp Gly Leu
 325 330 335
 Arg Val Asn Thr Val Asp Val Ser Glu Tyr Ile Ser Trp Val Asp Gly
 340 345 350
 Tyr Tyr Cys Phe Asn His Glu Lys Ile Glu Ile Ile Thr Glu Lys Leu
 355 360 365
 Ser Arg Tyr Tyr Gly Lys Arg Val Ile Pro Asp Ser Gly Leu Ile Gly
 370 375 380
 Leu Thr Cys Ser Gly Lys Leu Asp Leu Arg Asp Asp Leu Arg Asp Val
 385 390 395 400
 Leu Glu Val Leu Ser Lys Thr Ile Pro Ala Gln Ile Glu Thr Arg Asp
 405 410 415
 Asn Tyr Phe Leu Leu Thr Lys
 420

<210> 9022

<211> 743

<212> PRT

<213> B.fragilis

<400> 9022

Ser Glu Thr Asn Val Val Val Met Lys Lys Arg Ile Cys Phe Val Leu
 1 5 10 15

Ile Leu Cys Ile Ser Leu Phe Val Phe Ser Pro Val His Ala Gln Gln
 20 25 30
 Arg Lys Ser Val Ala Val Val Leu Ser Gly Gly Gly Ala Lys Gly Val
 35 40 45
 Ala His Ile Gly Ala Leu Lys Val Ile Glu Glu Ala Gly Ile Pro Ile
 50 55 60
 Asp Tyr Ile Val Gly Thr Ser Met Gly Ser Ile Ile Gly Gly Leu Tyr
 65 70 75 80
 Ser Ile Gly Tyr Thr Pro His Gln Leu Asp Ser Met Val Asn His Gln
 85 90 95
 Asn Trp Pro Leu Leu Ser Asp Arg Ile Ser Trp Glu Asp Gln Thr
 100 105 110
 Met Thr Glu Arg Gln Asn Ser Glu Thr Tyr Val Leu Ser Val Pro Leu
 115 120 125
 Lys Lys Asn Leu Lys Ala Asn Val Phe Gly Gly Val Ile Lys Gly Gln
 130 135 140
 Asn Leu Ala Asn Leu Phe Ser Glu Leu Thr Val Gly Tyr His Asp Ser
 145 150 155 160
 Ile Asn Phe Asn Lys Leu Pro Ile Pro Phe Ala Cys Val Ser Glu Asn
 165 170 175
 Ile Val Asn Gly Asp Glu Val Val Phe His Asn Gly Val Leu Ala Thr
 180 185 190
 Ala Met Arg Ala Ser Met Ala Ile Pro Gly Val Phe Thr Pro Val Arg
 195 200 205
 Leu Gly Asp Lys Ile Leu Val Asp Gly Gly Met Lys Asn Asn Phe Pro
 210 215 220
 Thr Asn Ile Ala Arg Thr Met Gly Ala Asp Val Ile Ile Gly Val Asp
 225 230 235 240
 Val Gln Asn Asp Leu Arg Thr Ala Asp Glu Leu Asn Asn Leu Ser Glu
 245 250 255
 Ile Phe Asn Gln Ile Ile Asn Leu Thr Gly Gln Thr Arg Tyr Glu Glu
 260 265 270
 Asn Ile Lys Leu Ala Thr Val Tyr Ile Lys Val Asp Val Lys Gly Tyr
 275 280 285
 Ser Ala Ala Ser Phe Asn Ile Pro Ala Leu Asp Thr Leu Val Asn Arg
 290 295 300
 Gly Glu Glu Ala Ala Arg Glu Gln Trp Thr Ala Leu Gln Lys Leu Lys
 305 310 315 320
 Lys Gly Ile Gly Leu Pro Glu Asn Tyr Val Ala Pro Arg His Gly Pro
 325 330 335
 Phe Ser Ser Leu Trp Ser Ser Lys Asp Ile Phe Val Lys Glu Ile Thr
 340 345 350
 Phe Asp Gly Ile Glu Asp Ser Asp Lys Lys Trp Ile Met His Arg Cys
 355 360 365
 His Leu Lys Glu Asn Ser Lys Met Arg Met Glu Gln Leu Tyr Glu Ala
 370 375 380
 Leu Thr Thr Leu Arg Gly Ser Gln Ala Tyr Ser Asn Val Ser Tyr Lys
 385 390 395 400
 Leu Thr Asp Thr Pro Gln Gly Tyr Gln Leu His Phe Ile Leu Glu Glu
 405 410 415
 Lys Tyr Glu Arg Asn Leu Asn Leu Gly Ile Arg Phe Asp Ser Glu Glu
 420 425 430
 Ile Ala Ser Leu Leu Asn Val Arg Ser Arg Leu Asp Thr Arg Val
 435 440 445
 Pro Ser Trp Val Ser Val Thr Gly Arg Leu Gly Lys Arg Tyr Leu Ala
 450 455 460
 Arg Val Glu Tyr Thr Leu Ala Pro Met Gln Met Arg Asn Phe Asn Phe
 465 470 475 480
 Ala Tyr Gln Phe Glu Tyr Asn Asp Ile Asn Ile Tyr Asp His Gly Arg

485	490	495
Arg Ser Tyr Asn Thr Thr Tyr Lys Tyr His Ser Gly Glu Phe Gly Phe		
500	505	510
Ser Asp Val Trp Phe Arg Asn Leu Arg Phe Gly Ala Gly Leu Asn Phe		
515	520	525
Glu Phe Phe Lys Tyr Lys Asp Phe Leu Tyr Asn Thr Gly Gly Gln Arg		
530	535	540
Leu Glu Val Lys Pro Gln His Phe Phe Ser Tyr Phe Ala Gln Leu His		
545	550	555
Tyr Asn Thr Tyr Asn Lys Gly Tyr Phe Pro Ser Lys Gly Thr Asp Val		
565	570	575
Gln Gly Arg Tyr Ser Leu Tyr Thr Asp Asn Leu Thr His Tyr Lys Gly		
580	585	590
His Ala Pro Phe Ser Ala Leu Ala Ala Ser Trp Ala Gly Val Phe Ser		
595	600	605
Leu Thr Asp Arg Phe Ala Leu Ile Pro Ser Leu Tyr Gly Arg Val Leu		
610	615	620
Ile Gly Lys Asn Ile Pro Tyr Pro Tyr Leu Asn Ala Met Gly Gly Glu		
625	630	635
Asn Phe Gly His Tyr Leu Pro Gln Gln Leu Pro Phe Ala Gly Ile Thr		
645	650	655
Asn Leu Glu Ile Val Asp Asn Ser Val Leu Val Thr Ser Leu Lys Leu		
660	665	670
Arg Gln Arg Ile Gly Ser Lys Asn Tyr Val Thr Phe Thr Gly Asn Val		
675	680	685
Ala Phe Arg Asn Asp Asn Phe Phe Asp Ile Trp Gly Ala Lys Pro Val		
690	695	700
Trp Gly Gly Ser Val Gly Tyr Gly Tyr Asp Ser Leu Phe Gly Pro Leu		
705	710	715
Glu Ala Ser Leu Gly Tyr Ser Ser Arg Ser His Lys Val Gly Phe Tyr		
725	730	735
Val Asn Leu Gly Tyr Val Phe		
740		

<210> 9023

<211> 196

<212> PRT

<213> B.fragilis

<400> 9023

Lys Pro Cys Asn Met Tyr Asn Asp Glu Leu Ile Glu Ser Ser Lys Ile		
1	5	10
Lys Trp Gln Ser Phe Leu Lys Gly Asp Asp Asp Ala Tyr Ala Trp Leu		
20	25	30
Tyr Ser Arg Tyr Val Gln Gln Leu Tyr Gln Tyr Gly Cys Arg Phe Thr		
35	40	45
Thr Asp Thr Glu Met Val Lys Asp Cys Val Gln Asp Val Phe Val Asn		
50	55	60
Val Tyr Arg Gln Lys Asp Arg Tyr Ser Ser Pro Pro Asp Asn Val Lys		
65	70	75
Ile Tyr Leu Met Ser Ser Leu Arg Asn Ser Ile Phe Asn Val Phe Asn		
85	90	95
Lys Gly Asn Leu His Asp Thr Tyr Ile Ser Asn Ile Asn Tyr Glu Phe		
100	105	110
Asp Leu Ser Val Glu Glu Lys Leu Ile Glu Thr Glu Asp Glu Thr Ser		
115	120	125
Gln Lys His Thr Val Ala His Leu Leu Asn Thr Leu Ser Pro Arg Gln		
130	135	140
Arg Glu Ile Ile Tyr Tyr Arg Phe Phe Glu Gly Leu Asp Tyr Ser Ala		

145	150	155	160
Ile Cys Glu Leu Met	Gly Leu Asn Tyr Gln Ser Ala Tyr Asn Leu Leu		
165	170	175	
Gln Arg Ser Leu Ser Arg Leu Arg Glu Met Tyr Gly Ile Leu Pro Phe			
180	185	190	
Phe Phe Leu Phe			
195			

<210> 9024

<211> 437

<212> PRT

<213> B.fragilis

<400> 9024

Lys Thr Gln Asn Leu Thr Leu Asn Ser Glu Phe Ser Thr Asn Phe Cys			
1	5	10	15
Tyr Ile Cys Thr Leu Phe Tyr Met Glu Leu Arg Arg Pro His Ile Leu			
20	25	30	
Tyr Ile Leu Ile Cys Leu Trp Leu Leu Val Ser Pro Ser Asn Val Ser			
35	40	45	
Ser Val Trp Ala Lys Asp Phe Val Val Val Ile Asp Ala Gly His Gly			
50	55	60	
Gly His Asp Pro Gly Ala Ile Gly Lys Ile Ser Lys Glu Lys Asn Ile			
65	70	75	80
Asn Leu Lys Val Ala Leu Lys Leu Gly Asn Leu Ile Lys Gln Asn Cys			
85	90	95	
Asn Asp Val Lys Val Val Tyr Thr Arg Ser Lys Asp Val Phe Ile Pro			
100	105	110	
Leu Asp Arg Arg Ala Glu Ile Ala Asn Asn Ala Lys Ala Asp Leu Phe			
115	120	125	
Ile Ser Ile His Thr Asn Ala Leu Ala Asn Asn Arg Thr Ala Lys Gly			
130	135	140	
Ala Ser Thr Trp Thr Leu Gly Leu Ala Lys Ser Asp Ala Asn Leu Glu			
145	150	155	160
Val Ala Lys Arg Glu Asn Ser Val Ile Leu Tyr Glu Asp Asp Tyr Lys			
165	170	175	
Thr Arg Tyr Ala Gly Phe Asn Pro Asn Ser Ala Glu Ser Tyr Ile Ile			
180	185	190	
Phe Glu Phe Met Gln Asp Lys Tyr Met Glu Gln Ser Val His Leu Ala			
195	200	205	
Ser Leu Val Gln Lys Gln Phe Arg His His Cys Lys Arg Val Asp Arg			
210	215	220	
Gly Val His Gln Ala Gly Phe Leu Val Leu Lys Ala Ser Ala Met Pro			
225	230	235	240
Ser Ile Leu Val Glu Leu Gly Phe Ile Ser Thr Pro Glu Glu Glu Arg			
245	250	255	
Tyr Leu Asn Thr Glu Glu Gly Ser Ser Thr Leu Ala Lys Gly Ile Tyr			
260	265	270	
Arg Ala Phe Leu Ser Tyr Lys Arg Glu His Glu Ile Arg Leu Thr Gly			
275	280	285	
Ser Ser Arg Thr Ala Leu Pro Asn Asp Asp Glu Val Thr Asp Thr Glu			
290	295	300	
Val Ala Gln Ile Asp Ser Thr Glu Ser Glu Asn Lys Lys Pro Gln Asn			
305	310	315	320
Thr Pro Arg Thr Asp Lys Leu Val Thr Glu Ala Lys Thr Gln Arg Pro			
325	330	335	
Ile Val Val Glu Ser Thr Thr Asn Asp Ser Glu Ile Thr Phe Lys Ile			
340	345	350	
Gln Ile Leu Thr Ser Ser Arg Pro Leu Ser Lys Asn Asp Lys Arg Leu			

355	360	365
Lys Gly Leu Lys Asp Val Asp Tyr Tyr Lys Glu Asn Gly Leu Tyr Lys		
370	375	380
Tyr Thr Tyr Gly Ala Ser Ser Asp Tyr Asn Lys Val Leu Arg Thr Arg		
385	390	395
Arg Asn Thr Val Thr Pro Leu Phe Lys Asp Ala Phe Ile Ile Ala Phe		
405	410	415
Arg Asn Gly Glu Lys Met Asn Ile Asn Glu Ala Ile Ala Asn Phe Lys		
420	425	430
Lys Arg Arg Asn Lys		
435		

<210> 9025

<211> 98

<212> PRT

<213> B.fragilis

<400> 9025

Ile Lys Gln Lys Gly Gly Leu Ile Met Ala Gln Gln Val Gln Ser Glu			
1	5	10	15
Ile Arg Tyr Leu Thr Pro Pro Ser Val Asp Val Lys Lys Lys Lys Tyr			
20	25	30	
Cys Arg Phe Lys Lys Ser Gly Ile Lys Tyr Ile Asp Tyr Lys Asp Pro			
35	40	45	
Glu Phe Leu Lys Lys Phe Leu Asn Glu Gln Gly Lys Ile Leu Pro Arg			
50	55	60	
Arg Ile Thr Gly Thr Ser Leu Lys Phe Gln Arg Arg Ile Ala Gln Ala			
65	70	75	80
Val Lys Arg Ala Arg His Leu Ala Leu Leu Pro Phe Val Thr Asp Met			
85	90	95	
Met Lys			

<210> 9026

<211> 447

<212> PRT

<213> B.fragilis

<400> 9026

Ile Asn Lys Lys Asp Val Leu Met Asn Arg Phe Asn Tyr Ile Gly Met			
1	5	10	15
Leu Ala Tyr Val Ala Leu Ser Met Ser Ser Cys Asp Asp Ser Phe Asp			
20	25	30	
Val Ser Ser Lys Ala Asp Gly Val Leu Ala Val Ser Gln Glu Gly Phe			
35	40	45	
Asn Thr Leu Gln Ser Tyr Asn Val Gly Glu Lys Tyr Thr Ala Asp Leu			
50	55	60	
Trp Ile Gln Gln Gly Leu Lys Ser Thr Ala Ser Val Val Ser Phe			
65	70	75	80
Ser Val Asp Lys Ala Leu Leu Asp Ser Met Asn Ile Ala Asp Gly Thr			
85	90	95	
Ser Tyr Glu Leu Leu Pro Ala Asp Cys Tyr Gln Leu Thr Lys Ser Ser			
100	105	110	
Val Asp Ile Pro Ala Asn Glu Arg Leu Leu Lys Gly Glu Leu Thr Tyr			
115	120	125	
Asp Pro Ala Lys Ile Gln Glu Leu Ser Gly Tyr Asp His Leu Lys Tyr			
130	135	140	
Val Leu Pro Leu Arg Ala Thr Ser Ser Gly Met Pro Phe Val Ser Gly			
145	150	155	160

Arg Ser Val Val Leu Leu Gly Phe Lys Val Ser Glu Pro Ile Val Thr
 165 170 175
 Ile Met Asn Ala Gly Val Glu Glu Ile Asn Leu Ala Glu Val Lys Glu
 180 185 190
 Leu Pro Val Gln Ile Gly Val Pro Phe Thr Asn Lys Trp Glu Ile Ser
 195 200 205
 Cys Arg Leu Glu Ser Arg Gln Ser Val Ile Asp Ala Tyr Asn Thr Ala
 210 215 220
 His Gly Thr Tyr Phe Ser Met Leu Pro Ser Asp Ala Tyr Ala Ala Pro
 225 230 235 240
 Glu Thr Pro Ile Leu His Ser Gly Val Asn Gln Val Thr Ala Thr Tyr
 245 250 255
 Lys Leu Lys Asp Asp Val Leu Pro Gly Asn Tyr Met Leu Pro Val Gln
 260 265 270
 Ile Ala Glu Val Thr Ser Asp Ala Thr Ile Arg Ala Asp Lys Asp Val
 275 280 285
 Tyr Ala Ala Tyr Ser Ile Ile Lys Glu Gly Asp Lys Leu Ser Lys Thr
 290 295 300
 Asp Trp Lys Ile Val Ser Phe Thr Thr Glu Glu Ala Ser Gly Glu Gly
 305 310 315 320
 Ser Asn Asn Gly His Ala Lys His Leu Ile Asp Gly Asn Val Glu Thr
 325 330 335
 Phe Trp His Ser Arg Trp Gln Gly Gly Ser Asp Pro Leu Pro Tyr Glu
 340 345 350
 Ile Ile Ile Asp Met Asn His Arg Val Lys Ile Ala Gln Ile Glu Leu
 355 360 365
 Leu Pro Arg Gly Arg Gly Ser Asn Asn Pro Ile Lys Val Ile Arg Phe
 370 375 380
 Glu Ala Ser Glu Asp Gly Thr Asn Trp Glu Ser Ile Gly Gln Phe Gly
 385 390 395 400
 Phe Thr Asn Gln Asp Ala Ala Leu Lys Tyr Tyr Val Lys Ser Ser Thr
 405 410 415
 Ala Arg Tyr Ile Lys Leu Val Ile Pro Asp Gly Val Gly Asn Gly Thr
 420 425 430
 Val Ala Ala Ile Arg Glu Leu Asp Val Arg Gly Thr Val Val Asn
 435 440 445

<210> 9027

<211> 458

<212> PRT

<213> B.fragilis

<400> 9027

Gln Leu Leu Asn Val Asn Glu Ile Gln Lys Tyr Ile Ala Glu Asn Glu
 1 5 10 15
 Ser Thr Met Met Glu Asp Leu Phe Ser Leu Ile Arg Ile Pro Ser Ile
 20 25 30
 Ser Ala Leu Pro Glu His His Asp Asp Met Leu Ala Cys Ala Gln Arg
 35 40 45
 Trp Thr Gln Leu Leu Leu Lys Ala Gly Ala Asp Glu Ala Ile Val Met
 50 55 60
 Pro Ser Lys Gly Asn Pro Ile Val Phe Gly Gln Lys Ile Val Asp Pro
 65 70 75 80
 Asn Ala Lys Thr Val Leu Ile Tyr Ala His Tyr Asp Val Met Pro Ala
 85 90 95
 Glu Pro Leu Asp Leu Trp Lys Ser Gln Pro Phe Glu Pro Glu Ile Arg
 100 105 110
 Asp Gly His Ile Trp Ala Arg Gly Ala Asp Asp Asp Lys Gly Gln Ala
 115 120 125

Phe Ile Gln Val Lys Ala Phe Glu Tyr Leu Val Lys Tyr Asn Leu Leu
 130 135 140
 Glu Asn Asn Val Lys Phe Ile Phe Glu Gly Glu Glu Ile Gly Ser
 145 150 155 160
 Pro Ser Leu Glu Ala Phe Cys Glu Glu His Lys Glu Leu Leu Lys Ala
 165 170 175
 Asp Val Ile Leu Val Ser Asp Thr Ser Met Leu Gly Ala Asp Leu Pro
 180 185 190
 Ser Leu Thr Thr Gly Leu Arg Gly Leu Ala Tyr Trp Glu Ile Glu Ile
 195 200 205
 Thr Gly Pro Asn Arg Asp Leu His Ser Gly His Phe Gly Gly Ala Val
 210 215 220
 Ala Asn Pro Ile Asn Val Leu Cys Gly Met Leu Ser Lys Val Ile Asp
 225 230 235 240
 Thr Asp Gly Arg Ile Thr Ile Pro Gly Phe Tyr Asp Ala Val Glu Glu
 245 250 255
 Val Pro Gln Ala Glu Arg Glu Met Ile Ala His Ile Pro Phe Asn Glu
 260 265 270
 Glu Lys Tyr Lys Glu Ala Ile Gly Val Lys Glu Leu Phe Gly Glu Lys
 275 280 285
 Gly Tyr Ser Thr Leu Glu Arg Asn Ser Cys Arg Pro Ser Phe Asp Ile
 290 295 300
 Cys Gly Ile Trp Gly Gly Tyr Thr Gly Glu Gly Ser Lys Thr Val Leu
 305 310 315 320
 Pro Ser Lys Ala Tyr Ala Lys Val Ser Cys Arg Leu Val Pro His Gln
 325 330 335
 Asp His His Val Ile Ser Lys Leu Phe Ala Asp Tyr Ile Arg Gln Ile
 340 345 350
 Ala Pro Ala Thr Val Glu Val Lys Val Thr Ala Met His Gly Gly Gln
 355 360 365
 Gly Tyr Val Cys Pro Ile Ser Leu Pro Ala Tyr Gln Ala Ala Glu Lys
 370 375 380
 Gly Phe Glu Ile Ala Phe Gly Lys Lys Pro Leu Ala Val Arg Arg Gly
 385 390 395 400
 Gly Ser Ile Pro Ile Ile Ser Thr Phe Glu Gln Val Leu Gly Ile Lys
 405 410 415
 Thr Val Leu Met Gly Phe Gly Leu Glu Ser Asp Ala Ile His Ser Pro
 420 425 430
 Asn Glu Asn Phe Ser Leu Asp Ile Phe Arg Lys Gly Ile Glu Ala Val
 435 440 445
 Val Glu Phe His Leu Ile Tyr Gly Lys Lys
 450 455

<210> 9028

<211> 299

<212> PRT

<213> B.fragilis

<400> 9028

Gln Asn Met Lys Leu Ile Thr Lys Glu Val Arg Ile Gly Ile Ala Gly
 1 5 10 15
 Val Ala Ala Leu Cys Leu Leu Val Phe Gly Ile Asn Tyr Leu Lys Gly
 20 25 30
 Ile Asn Met Phe Lys Pro Ala Ser Tyr Phe Tyr Val Lys Phe His Asn
 35 40 45
 Val Asn Gly Leu Ala Gln Ser Ser Pro Val Phe Ala Asp Gly Val Arg
 50 55 60
 Val Gly Ile Val Arg Asp Ile Ala Tyr Asp Tyr Asn Gln Pro Glu Asn
 65 70 75 80

Val Ile Val Glu Val Glu Val Asp Thr Asp Leu Arg Ile Pro Lys Gly
 85 90 95
 Ser Ser Ala Glu Leu Val Pro Glu Leu Met Gly Gly Val Arg Met Asn
 100 105 110
 Ile Leu Leu Ala Asn Asn Pro Arg Glu Arg Tyr Thr Val Gly Asp Thr
 115 120 125
 Ile Pro Gly Thr Leu Asn Asn Gly Met Met Glu Lys Val Ala Ala Met
 130 135 140
 Met Pro Ala Val Glu Lys Met Leu Pro Lys Leu Asp Ser Ile Leu Thr
 145 150 155 160
 Ser Leu Asn Thr Ile Met Ala Asp Gln Ser Ile Pro Ala Thr Leu His
 165 170 175
 Ser Ile Glu Lys Thr Thr Ala Asn Leu Glu Val Thr Ser Arg Gln Leu
 180 185 190
 Lys Val Leu Met Asn Asn Asp Ile Pro Gln Leu Thr Gly Lys Leu Asn
 195 200 205
 Thr Ile Gly Asp Asn Phe Val Val Ile Ser Gly Asn Leu Lys Glu Ile
 210 215 220
 Asp Tyr Ala Ala Thr Phe Lys Lys Ile Asp Thr Thr Leu Ser Asn Val
 225 230 235 240
 Lys Met Leu Thr Glu Lys Leu Asn Ser Lys Asp Asn Thr Val Gly Leu
 245 250 255
 Leu Leu Asn Asp Pro Gln Leu Tyr Asn Asn Leu Asn Gln Thr Thr Ile
 260 265 270
 Asn Ala Ala Asn Leu Leu Glu Asp Leu Lys Glu His Pro Lys Arg Tyr
 275 280 285
 Val His Phe Ser Leu Phe Gly Lys Lys Asp Lys
 290 295

<210> 9029

<211> 297

<212> PRT

<213> B.fragilis

<400> 9029

Lys Lys Met Lys Lys Ile Phe Tyr Pro Val Leu Leu Val Leu Ala
 1 5 10 15
 Ala Cys Lys Asn Pro Glu Gln Thr Ser Glu Thr Ile Val Pro Ala Pro
 20 25 30
 Ala Ile Ala Asp Ile Pro Thr Asp Thr Val Thr Gln Val Asp Gly
 35 40 45
 Ile Thr Ser Ala Thr Ser Lys Pro Asn Gln Val Ser Phe Asn Gly Thr
 50 55 60
 Ile Val Leu Pro Pro Gln Arg Gln Ala Thr Val Ala Leu Thr Met Gly
 65 70 75 80
 Gly Val Val Lys His Thr Ser Leu Leu Pro Gly Gln Gln Val Arg Gln
 85 90 95
 Gly Ala Leu Leu Ala Thr Leu Glu Asn Pro Asp Phe Ile Ala Leu Gln
 100 105 110
 Gln Thr Tyr Leu Asp Ser His Ala Gln Ala Glu Tyr Leu Gln Ala Glu
 115 120 125
 Tyr Glu Arg Gln Lys Thr Leu Ser Thr Glu Gln Ala Ala Ser Gln Lys
 130 135 140
 Lys Phe Gln Gln Ser Lys Ala Asp Tyr Leu Ser Met Lys Ser Lys Leu
 145 150 155 160
 Glu Ala Thr Ala Ala Gln Leu Thr Leu Leu Gly Ile Val Pro Glu Glu
 165 170 175
 Leu Leu Lys Ser Gly Ile Gln Pro Leu Leu Gln Val Lys Ala Pro Ile
 180 185 190

Ser Gly Tyr Ile Ser Asp Val Ala Met Asn Ile Gly Lys Tyr Ile Gln
 195 200 205
 Pro Gly Glu Ala Leu Cys Glu Val Ile Asp Lys Ser Ala Pro Leu Leu
 210 215 220
 Cys Leu Thr Thr Tyr Glu Lys Asp Leu Ala Asp Met Lys Val Gly Ser
 225 230 235 240
 Pro Val Gln Phe Arg Val Asn Gly Met Gly Lys Thr Val Phe Lys Ala
 245 250 255
 Thr Leu Val Ser Ile Gly Gln Lys Val Asp Glu Val Ser Arg Ser Leu
 260 265 270
 Glu Val Tyr Ala Arg Ile Asp Asp Val Asn Gln Gln Phe Arg Pro Gly
 275 280 285
 Met Tyr Val Thr Ala Arg Ile Gln Lys
 290 295

<210> 9030

<211> 400

<212> PRT

<213> B.fragilis

<400> 9030

Asn Met Met Asn Thr Lys Ser Phe Phe Met Val Ala Ile Gly Val Phe
 1 5 10 15
 Val Leu Ala Ser Cys Asn Leu Asn Gln Val Asp Gln Thr Gly Leu Leu
 20 25 30
 Thr Ala Ser Val Arg Asp Ala Leu Asn Ser Pro Ala Thr Leu Ser Ile
 35 40 45
 Ala Asp Glu Ile Glu Ser Val Glu Tyr Ile Pro Leu Glu Met Thr Asn
 50 55 60
 Asp Asp Ala Ser Leu Ile Asp Gly Val Val Asp Phe Ala Ile Thr Ser
 65 70 75 80
 Lys Tyr Ile Tyr Val Leu Val Gly Lys Glu Ala Arg Ile Val Leu Phe
 85 90 95
 Asp Arg Gln Gly His Phe Leu Arg Thr Phe Leu Arg Gln Gly Gln Gly
 100 105 110
 Pro Asp Asp Phe Asn Gly Met Ile Gly Phe Ile Gln Ala Asp Glu Ala
 115 120 125
 Asp Asn Arg Phe Tyr Val Ile Gly Asn Lys Val Gly Ile Tyr Thr Leu
 130 135 140
 Glu Gly Thr Phe Val Glu Asp Leu Pro Val Asn Ser Pro Ile Ile Tyr
 145 150 155 160
 Ala His His Leu Gly Asn Lys Arg Ile Gly Ala Ile Ala Met Pro Leu
 165 170 175
 Met Pro Phe Gln Asn Gly Ser Phe Gly Ile Gly Val Phe Gln Glu Asp
 180 185 190
 Gly Glu Ala Ile Ile Thr Lys Asn Asp Phe Tyr Ser Pro Leu Val Pro
 195 200 205
 Arg Glu Asp Ser Gly Phe Thr Phe Gly Val Met Gly Ser Pro Ser Asp
 210 215 220
 Gly Lys Gln Ala Ser Val Leu Phe Lys Thr Ala Ser Asn Asp Thr Ile
 225 230 235 240
 Tyr Arg Leu Ser Ala Asp Thr Ile Gln Pro Val Leu Val Ala Gly Leu
 245 250 255
 Ser Asn Ser Asp Glu Glu Val Ile Arg Gly Leu Asn Ile Arg Asp Ile
 260 265 270
 Lys Arg Phe Pro Ala Asn Gly Asp Ile Phe Val Ser Asp Ile Phe Glu
 275 280 285
 Thr Pro Arg Arg Phe Tyr Leu Arg Met Met Leu Asn Glu Lys Tyr Tyr
 290 295 300

Val Ala Ser Val Asp Lys His Ser Gly Glu Thr Val Val Glu Gln Cys
 305 310 315 320
 Asp Ile Pro Glu Thr Ser Ala Tyr Asn Leu Ala Asp Ile Asn Met Gln
 325 330 335
 Leu Gly Met Val Gly Ser Lys Gly His Asn Arg Phe Pro Val Trp Gly
 340 345 350
 Arg Val Leu Gly Asn Asn Leu Val Gln Val Val Thr Pro Tyr Glu Ile
 355 360 365
 Glu Thr Phe Lys Glu Gln Thr Gln Ile Thr Val Pro Gln Glu Leu Gln
 370 375 380
 Lys Arg Asn Ala Asn Glu Asn Pro Ile Phe Ile Ile Tyr Lys Ile Lys
 385 390 395 400

<210> 9031

<211> 350

<212> PRT

<213> B.fragilis

<400> 9031

Asn Ala Val Asn His Met Lys Lys Leu Ile Asp Lys Leu Arg Glu Glu
 1 5 10 15
 Arg Thr Leu Thr Ser Glu Glu Phe Ala His Leu Leu Ser His Tyr Asp
 20 25 30
 Asp Glu Ala Leu Ala Tyr Ile Asn Gln Gln Ala Arg Glu Val Ala Thr
 35 40 45
 Ala His Phe Gly Gln Gly Val Tyr Ile Arg Gly Leu Ile Glu Ile Ser
 50 55 60
 Asn Tyr Cys Arg Asn Asn Cys Asn Tyr Cys Gly Ile Arg Lys Asp Asn
 65 70 75 80
 Trp Arg Ala Asp Arg Tyr Arg Leu Ser Lys Glu Met Ile Trp Asp Cys
 85 90 95
 Cys Glu His Gly Tyr Lys Leu Gly Phe Arg Ser Phe Val Leu Gln Gly
 100 105 110
 Gly Glu Asp Pro Lys Arg Ser Asp Asn Asp Met Glu Glu Ile Ile Ala
 115 120 125
 Glu Ile Arg Arg Tyr Pro Glu Cys Ala Ile Thr Leu Ser Ile Gly
 130 135 140
 Glu Lys Pro Ala Lys Ala Tyr Glu Arg Tyr Phe Met Lys Gly Ala Asp
 145 150 155 160
 Arg Tyr Leu Leu Arg His Glu Thr Phe Asn Arg Gly His Tyr Tyr Cys
 165 170 175
 Leu His Pro Tyr Glu Met Ser Asn Glu Arg Arg Ile Lys Cys Leu Gln
 180 185 190
 Glu Leu Lys Arg Ile Gly Phe Gln Thr Gly Thr Gly Ile Met Val Gly
 195 200 205
 Thr Pro Arg Gln Arg Val Glu Phe Leu Ile Glu Asp Ile Arg Phe Ile
 210 215 220
 Glu Asn Phe Gln Pro Glu Met Ile Gly Ile Gly Pro Phe Ile Pro His
 225 230 235 240
 Gln Arg Thr Pro Phe Cys Asp Glu Lys Ala Gly Ser Val Glu Leu Thr
 245 250 255
 Leu Leu Leu Ser Ile Phe Arg Leu Met His Pro Lys Ala Leu Ile
 260 265 270
 Pro Ser Thr Thr Ala Leu Ala Ser Leu Ala Pro Asp Gly Arg Ile Arg
 275 280 285
 Gly Ile Leu Ala Gly Ala Asn Val Val Met Pro Asn Leu Ser Pro Ile
 290 295 300
 Ile Val Arg Asn Lys Tyr Asn Leu Tyr Asp Gln Lys Val Ala Phe Gly
 305 310 315 320

Ala Glu Ala Ala Glu Gly Leu Ala Leu Leu Glu Lys Gln Leu Thr Ala		
325	330	335
Val Gly Tyr His Ile Asp Tyr Ser Arg Gly Asp Tyr Asn Asn		
340	345	350

<210> 9032

<211> 63

<212> PRT

<213> B.fragilis

<400> 9032

Leu Ile Pro Lys Thr Ser Lys His Lys Ala Ala Thr Pro Ala Ile Pro			
1	5	10	15
Ile Leu Thr Ser Phe Val Met Ser Phe Met Phe Cys Tyr Leu Val Phe			
20	. 25	30	
Leu Phe Ile Ser Ser Phe Leu Lys Ile Gly Tyr Ser Leu Val Asp Ile			
35	40	45	
His Leu Phe Ser Val Ala Glu Cys Asn Asp Glu Gly Ile Leu Lys			
50	55	60	

<210> 9033

<211> 349

<212> PRT

<213> B.fragilis

<400> 9033

Asn Ala Pro Lys Arg Lys Met Asn Lys Ile Ser Val Val Ile Leu Asn			
1	5	10	15
Trp Asn Gly Cys Glu Met Leu Arg Ser Phe Leu Pro Ser Val Leu Arg			
20	25	30	
Tyr Ser Glu Ala Glu Gly Val Glu Val Cys Val Ala Asp Asn Gly Ser			
35	40	45	
Thr Asp Gln Ser Val Glu Met Leu Arg Arg Glu Phe Pro Ser Val Arg			
50	55	60	
Arg Ile Leu Leu Asp Gly Asn His Gly Phe Ala Asp Gly Tyr Asn Leu			
65	70	75	80
Ala Leu Arg Gln Val Glu Ala Glu Tyr Val Val Leu Leu Asn Ser Asp			
85	90	95	
Val Glu Val Thr Gly His Trp Leu Gln Pro Met Ala Ala Tyr Leu Asp			
100	105	110	
Ala His Pro Glu Val Ala Ala Cys Gln Pro Lys Ile Arg Ser Trp Arg			
115	120	125	
Gln Lys Glu Trp Phe Glu Tyr Ala Gly Ala Ala Gly Gly Phe Ile Asp			
130	135	140	
Arg Tyr Gly Tyr Pro Phe Cys Arg Gly Arg Val Met Gly Val Val Glu			
145	150	155	160
Ala Asp Arg Gly Gln Tyr Asp Thr Val Leu Pro Ile Phe Trp Ala Thr			
165	170	175	
Gly Ala Ala Met Phe Ile Arg Leu Ala Asp Tyr Arg Glu Ala Gly Gly			
180	185	190	
Leu Asp Gly Arg Phe Phe Ala His Met Glu Glu Ile Asp Leu Cys Trp			
195	200	205	
Arg Leu Arg Ala Arg Gly Arg Gly Ile Val Cys Ile Pro Gln Ser Val			
210	215	220	
Val Tyr His Val Gly Gly Ala Thr Leu Lys Lys Glu Asn Pro His Lys			
225	230	235	240
Thr Phe Leu Asn Phe Arg Asn Asn Leu Val Met Leu Tyr Lys Asn Leu			
245	250	255	
Pro Asp Arg Glu Leu Ala Gly Val Met Arg Val Arg Cys Trp Leu Asp			

260	265	270
Tyr Ile Ala Ala Ala Thr Phe Ala Leu Lys Gly Gln Leu Pro Asn Ala		
275	280	285
Lys Ala Val Val Arg Ala Arg Arg Glu Phe Lys Leu Leu Arg Asp Ser		
290	295	300
Phe Arg Asp Ala Arg Ala Glu Asn Leu Arg Lys Thr Ser Ser His Phe		
305	310	315
Ile Pro Glu Arg Ile Lys Ser Ser Ile Leu Val Gln Phe Tyr Val Lys		
.	325	330
Gly Arg Lys Phe Phe Ser Gln Leu Ser Asp Leu Lys Gly		
340	345	

<210> 9034

<211> 76

<212> PRT

<213> B.fragilis

<400> 9034

Lys Ala Lys Lys Met Lys Lys Leu Val Leu Met Phe Val Ala Ile Ala		
1	5	10
Ala Val Ser Phe Ala Ser Cys Gly Asn Lys Ala Ala Asp Ala Glu Lys		
20	25	30
Ala Thr Ala Asp Ser Ile Arg Ile Ala Asp Ser Ile Ala Ala Val Glu		
35	40	45
Ala Ala Ala Ala Glu Ala Ala Ala Gln Ala Ala Asp Thr Ile Ala Ala		
50	55	60
Asp Thr Thr Val Val Thr Glu Thr Val Val Ala Glu		
65	70	75

<210> 9035

<211> 146

<212> PRT

<213> B.fragilis

<400> 9035

Leu Met Lys Lys Leu Leu Arg Pro Thr Thr Phe Ala Leu Leu Thr Met		
1	5	10
Ala Leu Cys Phe Thr Ala Cys Glu Asn Gly Asn Asn Ser Tyr Pro Lys		
20	25	30
Glu Tyr Leu Gly Phe Glu Lys Lys Ala Gln Asp Phe Ser Tyr Gln Lys		
35	40	45
Asn Ala Glu Glu Thr Glu Leu Gln Val Lys Ile Val Ala Ala Asp Lys		
50	55	60
Thr Ser Glu Asp Arg Ile Val Phe Ile Glu Ser Pro Ala Arg Pro Thr		
65	70	75
80		
Lys Pro Gly Ser Ser Ser Ala Pro Phe Tyr Lys Ile Lys Asp Asn Lys		
85	90	95
Ile Thr Ile Lys Gly Gly Ser Lys Ser Ala Lys Ala Thr Ile Leu Val		
100	105	110
Tyr Pro Arg Lys Val Gly Thr Asn Glu Tyr Ile Gln Leu Ile Cys Arg		
115	120	125
Pro Gln Asn Gly Lys Ser Glu Thr Thr Lys Met Ser Ile Arg Leu Val		
130	135	140
Lys Lys		
145		

<210> 9036

<211> 82

<212> PRT

<213> B.fragilis

<400> 9036

Trp	Gly	Asn	Leu	Tyr	Arg	Thr	Lys	Arg	Leu	Thr	Trp	Ile	His	Lys	Val
1				5					10					15	
Ile	Thr	Leu	Leu	Ile	Trp	Leu	Leu	Leu	Phe	Leu	Leu	Gly	Ile	Asp	Val
				20					25					30	
Glu	Gly	Ile	Glu	Ala	Ile	Val	Lys	Gly	Leu	His	Ala	Ile	Gly	Leu	Glu
				35				40					45		
Ala	Leu	Ile	Ile	Thr	Ala	Ala	Ala	Val	Thr	Gly	Ser	Thr	Leu	Ala	Ala
				50				55					60		
Trp	Gly	Leu	Trp	Tyr	Leu	Leu	His	Thr	Arg	Tyr	Gln	Lys	Lys	Glu	Ala
				65				70			75			80	
Lys	Pro														

<210> 9037

<211> 237

<212> PRT

<213> B.fragilis

<400> 9037

Lys	Met	Ile	Asp	Met	Asp	Glu	Lys	Leu	Arg	Ile	Leu	Leu	Cys	Glu	Asp
1				5					10					15	
Asp	Glu	Asn	Leu	Gly	Met	Leu	Leu	Arg	Glu	Tyr	Leu	Gln	Ala	Lys	Gly
				20					25					30	
Tyr	Ser	Ala	Glu	Leu	Tyr	Pro	Asp	Gly	Glu	Ala	Gly	Phe	Lys	Ala	Phe
				35				40				45			
Leu	Lys	Asn	Lys	Tyr	Asp	Leu	Cys	Val	Phe	Asp	Val	Met	Met	Pro	Lys
				50				55				60			
Lys	Asp	Gly	Phe	Thr	Leu	Ala	Gln	Glu	Val	Arg	Ala	Ala	Asn	Ala	Glu
				65				70		75				80	
Ile	Pro	Ile	Ile	Phe	Leu	Thr	Ala	Lys	Thr	Leu	Lys	Glu	Asp	Ile	Leu
				85				90					95		
Glu	Gly	Phe	Lys	Ile	Gly	Ala	Asp	Asp	Tyr	Ile	Thr	Lys	Pro	Phe	Ser
				100				105					110		
Met	Glu	Glu	Leu	Thr	Phe	Arg	Ile	Glu	Ala	Ile	Leu	Arg	Arg	Val	Arg
				115				120				125			
Gly	Lys	Lys	Asn	Lys	Glu	Ser	Asn	Val	Tyr	Lys	Ile	Gly	Lys	Phe	Thr
				130				135				140			
Phe	Asp	Thr	Gln	Lys	Gln	Ile	Leu	Ala	Ile	Gly	Asp	Lys	Gln	Thr	Lys
				145				150			155			160	
Leu	Thr	Thr	Lys	Glu	Ser	Glu	Leu	Leu	Gly	Leu	Leu	Cys	Ala	His	Ala
				165				170					175		
Asn	Glu	Ile	Leu	Gln	Arg	Asp	Phe	Ala	Leu	Lys	Thr	Ile	Trp	Ile	Asp
				180				185					190		
Asp	Asn	Tyr	Phe	Asn	Ala	Arg	Ser	Met	Asp	Val	Tyr	Ile	Thr	Lys	Leu
				195				200					205		
Arg	Lys	His	Leu	Lys	Asp	Asp	Asp	Ser	Ile	Glu	Ile	Ile	Asn	Ile	His
				210				215					220		
Gly	Lys	Gly	Tyr	Lys	Leu	Ile	Thr	Pro	Glu	Pro	Glu	Ser			
				225				230					235		

<210> 9038

<211> 449

<212> PRT

<213> B.fragilis

<400> 9038

Leu Cys Ala Glu Tyr Ala Phe Leu Gln Ile Met Ile Asp Thr Thr Val
 1 5 10 15
 Phe Gln Asp Lys Thr Ala Val Tyr Tyr Thr Leu Gly Cys Lys Leu Asn
 20 25 30
 Phe Ser Glu Thr Ser Thr Ile Gly Lys Ile Leu Arg Glu Ala Gly Val
 35 40 45
 Arg Thr Ala Arg Lys Gly Glu Lys Ala Asp Leu Cys Ile Val Asn Thr
 50 55 60
 Cys Ser Val Thr Glu Met Ala Asp Lys Lys Cys Arg Gln Ala Ile His
 65 70 75 80
 Arg Leu Val Lys Gln His Pro Gly Ala Phe Val Val Val Thr Gly Cys
 85 90 95
 Tyr Ala Gln Leu Lys Pro Gly Asp Val Ala Lys Ile Glu Gly Val Asp
 100 105 110
 Val Val Leu Gly Ala Glu Gln Lys Lys Asp Leu Leu Gln Tyr Leu Gly
 115 120 125
 Asp Leu His His Glu Gly Glu Ala Tyr Thr Ala Thr Lys
 130 135 140
 Asp Ile Arg Ser Phe Ala Pro Ser Cys Ser Arg Gly Asp Arg Thr Arg
 145 150 155 160
 Phe Phe Leu Lys Val Gln Asp Gly Cys Asp Tyr Phe Cys Ser Tyr Cys
 165 170 175
 Thr Ile Pro Phe Ala Arg Gly Arg Ser Arg Asn Gly Thr Ile Ala Ser
 180 185 190
 Leu Val Glu Gln Ala Arg Gln Ala Ala Ala Glu Gly Gly Lys Glu Ile
 195 200 205
 Val Leu Thr Gly Val Asn Ile Gly Asp Phe Gly Lys Ser Thr Gly Glu
 210 215 220
 Thr Phe Phe Asp Leu Val Lys Ala Leu Asp Arg Val Glu Gly Ile Glu
 225 230 235 240
 Arg Tyr Arg Ile Ser Ser Ile Glu Pro Asn Leu Leu Thr Asp Glu Ile
 245 250 255
 Ile Glu Tyr Val Ser Arg Ser Arg Ser Phe Met Pro His Phe His Ile
 260 265 270
 Pro Leu Gln Ser Gly Ser Asp Glu Val Leu Gln Leu Met Arg Arg Arg
 275 280 285
 Tyr Gly Thr Glu Leu Phe Ala Ser Lys Ile Ala Lys Ile Lys Glu Val
 290 295 300
 Met Pro Asp Ala Phe Ile Gly Val Asp Val Ile Val Gly Thr Arg Gly
 305 310 315 320
 Glu Thr Ala Gly Tyr Phe Glu Lys Ala Tyr Glu Phe Ile His Gly Leu
 325 330 335
 Asp Val Thr Gln Leu His Val Phe Ser Tyr Ser Glu Arg Pro Gly Thr
 340 345 350
 Gln Ala Leu Lys Ile Asp His Val Val Thr Pro Glu Glu Lys His Gln
 355 360 365
 Arg Ser Gln Arg Leu Leu Ala Leu Ser Asp Glu Lys Thr Lys Ala Phe
 370 375 380
 Tyr Ala Arg His Ile Gly Gln Thr Met Pro Val Leu Met Glu Lys Pro
 385 390 395 400
 Lys Ala Gly Ala Pro Met His Gly Phe Thr Ala Asn Tyr Ile Arg Val
 405 410 415
 Glu Val Glu Ser Asp Ala Ala Leu Asp Asn Lys Val Val Asn Val Leu
 420 425 430
 Leu Gly Asp Phe Asn Glu Glu Gly Thr Ala Leu Lys Gly Thr Ile Thr
 435 440 445
 Gln

<210> 9039
<211> 81
<212> PRT
<213> B.fragilis

<400> 9039
Thr Gly Gly Asp Arg Gly Gly Arg Ile Gly Glu Glu Lys Lys Glu Lys
1 5 10 15
Glu Ile Arg Ala Tyr Ser Val Thr Lys Tyr Ile Ser Leu Gln Ser Ile
20 25 30
Gln Arg Ala Arg Ser Phe Asn Tyr Val Glu Ser Leu Tyr Asn Asn Phe
35 40 45
Val Leu Ser Val Tyr Phe Val Ala Arg Leu Leu Cys Asp Val Ser Val
50 55 60
Pro Ala Ala Val Phe Pro Pro Ile Phe Val Asn Ser Arg Phe Met Tyr
65 70 75 80
Cys

<210> 9040
<211> 311
<212> PRT
<213> B.fragilis

<400> 9040
Asn Leu Asn Asp Ile Thr Met Leu Lys Phe Leu Lys Asn Trp Thr Leu
1 5 10 15
Pro Ile Ala Met Leu Val Gly Ala Val Gly Tyr Pro Val Phe Ile Ser
20 25 30
Phe Ser Phe Leu Thr Pro Ile Leu Ile Phe Thr Met Leu Leu Leu Thr
35 40 45
Phe Cys Lys Val Ser Pro Arg Asp Leu Lys Pro Lys Pro Leu His Leu
50 55 60
Trp Leu Leu Leu Ile Gln Ile Phe Gly Ser Leu Ile Val Tyr Leu Leu
65 70 75 80
Leu Tyr Arg Phe Asn Lys Ile Val Ala Glu Gly Ala Met Val Cys Val
85 90 95
Ile Cys Pro Thr Ala Thr Ala Ala Val Ile Thr Ser Lys Leu Gly
100 105 110
Gly Ser Ala Ala Ser Leu Thr Thr Tyr Thr Leu Ile Ala Asn Ile Gly
115 120 125
Ala Ala Ile Ala Val Pro Ile Leu Phe Pro Leu Ile Glu Ala Asn Pro
130 135 140
Gly Ile Ser Phe Ile Asp Ala Phe Leu Val Ile Leu Ser Lys Val Phe
145 150 155 160
Pro Leu Leu Ile Cys Pro Phe Leu Ala Ala Trp Phe Leu Gln Arg Phe
165 170 175
Ile Pro Lys Val His Lys Val Leu Leu Gly Tyr His Glu Leu Ala Phe
180 185 190
Tyr Leu Trp Gly Ile Ser Leu Ala Ile Val Thr Ala Gln Thr Leu Tyr
195 200 205
Ser Leu Ile Asn Asp Pro Ala Asp Gly Leu Thr Glu Ile Met Ile Ala
210 215 220
Val Val Ala Leu Ile Ala Cys Cys Leu Gln Phe Phe Leu Gly Lys Thr
225 230 235 240
Leu Gly Ser Ile Tyr Asn Asp Arg Ile Ser Gly Gly Gln Ala Leu Gly
245 250 255
Gln Lys Asn Thr Ile Leu Ala Ile Trp Met Ala His Thr Tyr Leu Asn
260 265 270

Pro Leu Ser Ala Val Gly Pro Gly Ser Tyr Val Leu Trp Gln Asn Ile
 275 280 285
 Ile Asn Ser Trp Gln Leu Trp Lys Lys Arg Lys Lys Glu Ser Glu Lys
 290 295 300
 Cys Ser Asn Asn Val Ser Gly
 305 310

<210> 9041

<211> 159

<212> PRT

<213> B.fragilis

<400> 9041

Ser Asp Gly Leu Arg Met Leu Ser Phe Arg Ala Arg Pro Glu Gly Trp
 1 5 10 15
 Pro Glu Lys Arg Leu His Leu Pro Thr Asp Phe Ser Pro Val Ser Gln
 20 25 30
 Ile Tyr Gly Ile Cys Val Gln Met Asp Gly Leu Gly Ala Glu Ser Asp
 35 40 45
 Glu Phe Ala Phe Val Leu Ser Leu Ser Arg Cys Phe Cys Tyr Ile Leu
 50 55 60
 Ser Val Cys Phe Cys Gly Ala Thr Gly Glu Lys Lys Ala Pro Val Arg
 65 70 75 80
 Gly Ser Ala His Asn Asn Ile Cys Glu Glu Ala Lys His Ile Asp Ile
 85 90 95
 Leu Pro Glu Arg Ser Lys His Phe Pro Glu Met Leu Thr Ser Phe Ala
 100 105 110
 Gln Asn Val Cys Phe Phe Leu Gly Lys Cys Thr Val Phe Asn Pro Lys
 115 120 125
 Tyr Pro Leu Leu Trp Leu Glu Lys Pro Pro Ser Cys Thr Glu Lys Ser
 130 135 140
 Ala Ala Ala Phe Tyr Phe Ile Leu Ser Gly Arg Arg Arg Ser Gln
 145 150 155

<210> 9042

<211> 633

<212> PRT

<213> B.fragilis

<400> 9042

Thr Met Ala Asp Ser Lys Glu Lys Leu Phe Ser Asp Phe Ser Pro Val
 1 5 10 15
 Ser Thr Glu Lys Trp Met Glu Lys Val Thr Ala Asp Leu Lys Gly Ala
 20 25 30
 Asp Phe Glu Lys Leu Val Trp Lys Thr Asn Glu Gly Phe Lys Val
 35 40 45
 Lys Pro Phe Tyr Arg Met Glu Asp Leu Glu Gly Leu Lys Thr Thr Asp
 50 55 60
 Ala Leu Pro Gly Glu Phe Pro Tyr Leu Arg Gly Thr Lys Lys Asn Ser
 65 70 75 80
 Asn Glu Trp Leu Val Arg Gln Glu Ile Lys Val Glu Ser Pro Lys Glu
 85 90 95
 Ala Asn Ala Lys Ala Leu Asp Ile Leu Asn Lys Gly Ile Asp Ser Leu
 100 105 110
 Ser Phe His Val Lys Ala Lys Glu Leu Asn Ala Glu Tyr Ile Glu Thr
 115 120 125
 Leu Leu Asn Asp Ile Cys Ala Glu Cys Val Glu Leu Asn Phe Ser Thr
 130 135 140
 Cys Gln Gly His Val Val Glu Leu Ala Asp Leu Leu Val Ala Tyr Phe

145	150	155	160
Gln Lys Lys Asp Tyr Asp Leu Thr Lys Leu Gln Gly Ser Ile Asn Tyr			
165	170	175	
Asp Phe Phe Asn Lys Met Leu Ala Lys Gly Lys Glu Lys Gly Asn Met			
180	185	190	
Val Gln Thr Ala Lys Ala Leu Ile Glu Ala Thr Ala Gln Leu Pro Lys			
195	200	205	
Tyr Arg Val Leu Asn Val Asn Ala Leu Thr Leu Asn Asn Ala Gly Ala			
210	215	220	
Tyr Ile Ser Gln Glu Leu Gly Tyr Ala Leu Ala Trp Gly Asn Glu Tyr			
225	230	235	240
Met Asn Gln Leu Thr Glu Ala Glu Ile Pro Ala Ala Ile Val Ala Lys			
245	250	255	
Lys Ile Lys Phe Asn Phe Gly Ile Ser Ser Asn Tyr Phe Leu Glu Ile			
260	265	270	
Ala Lys Phe Arg Ala Ala Arg Met Leu Trp Ala Asn Ile Val Ala Ser			
275	280	285	
Tyr Asn Pro Glu Cys Leu Arg Asp Cys Glu Asn Lys Gly Pro Asn Gly			
290	295	300	
Glu Cys Arg Cys Ala Ala Lys Met Lys Val His Ala Glu Thr Ser Thr			
305	310	315	320
Phe Asn Leu Thr Leu Phe Asp Ala His Val Asn Leu Leu Arg Thr Gln			
325	330	335	
Thr Glu Ala Met Ser Ala Ala Leu Gly Gly Val Asp Ser Met Thr Val			
340	345	350	
Val Pro Phe Asp Lys Thr Tyr Glu Thr Pro Asp Glu Phe Ser Glu Arg			
355	360	365	
Leu Ala Arg Asn Gln Gln Leu Leu Leu Lys Glu Glu Ser His Phe Asp			
370	375	380	
Lys Val Ile Asp Pro Ala Ala Gly Ser Tyr Tyr Ile Glu Asn Leu Thr			
385	390	395	400
Val Ser Ile Ala Lys Gln Ala Trp Glu Ile Phe Leu Ala Val Glu Glu			
405	410	415	
Glu Gly Gly Phe Tyr Ala Ala Leu Lys Ala Gly Thr Val Gln Ala Ala			
420	425	430	
Val Asn Glu Ser Asn Lys Ala Arg His Lys Ala Val Ala Gln Arg Arg			
435	440	445	
Glu Val Leu Leu Gly Thr Asn Gln Phe Pro Asn Phe Asn Glu Lys Ala			
450	455	460	
Gly Asp Lys Lys Pro Val Glu Ala Thr Cys Cys Cys Gly Gly His Asp			
465	470	475	480
Thr Cys Glu Lys Asp Val Ala Thr Leu Asn Phe Asp Arg Ala Ala Ser			
485	490	495	
Gln Phe Glu Ala Leu Arg Leu Glu Thr Glu Ala Ser Gly Lys Arg Pro			
500	505	510	
Lys Ala Phe Met Leu Thr Ile Gly Asn Leu Ala Met Arg Gln Ala Arg			
515	520	525	
Ala Gln Tyr Ser Cys Asn Phe Leu Ala Cys Ala Gly Tyr Glu Val Ile			
530	535	540	
Asp Asn Leu Gly Phe Glu Thr Val Glu Ala Gly Val Glu Ala Ala Met			
545	550	555	560
Ala Ala Lys Ala Asp Ile Val Val Leu Cys Ser Ser Asp Asp Glu Tyr			
565	570	575	
Ala Glu Tyr Ala Ile Pro Ala Phe Arg Ala Leu Asn Gly Arg Ala Met			
580	585	590	
Phe Ile Ile Ala Gly Asn Pro Glu Cys Ala Glu Glu Leu Lys Ala Ala			
595	600	605	
Gly Ile Glu Asn Phe Ile His Val Arg Val Asn Val Leu Glu Thr Leu			
610	615	620	

Lys Glu Phe Asn Ala Lys Leu Leu Lys
625 630

<210> 9043

<211> 476

<212> PRT

<213> B.fragilis

<400> 9043

Ser	Thr	Lys	Asp	Met	Tyr	Lys	Val	Asp	Ser	Pro	Asp	Ala	Val	Asp	Phe
1		5				10						15			
Ile	Asn	His	Gln	Glu	Ile	Ile	Glu	Thr	Leu	Glu	Tyr	Ala	Arg	Ala	His
			20				25					30			
Arg	Asn	Asp	Arg	Glu	Leu	Ile	Arg	Asn	Leu	Ile	Glu	Lys	Ala	Arg	Leu
			35				40					45			
Cys	Lys	Gly	Leu	Thr	His	Arg	Glu	Ala	Ala	Ile	Leu	Leu	Glu	Cys	Ala
			50			55					60				
Glu	Glu	Asp	Leu	Thr	Lys	Glu	Ile	Phe	His	Leu	Ala	Lys	Glu	Ile	Lys
			65			70			75			80			
Gln	Lys	Phe	Tyr	Gly	Asn	Arg	Ile	Val	Met	Phe	Ala	Pro	Leu	Tyr	Leu
							85			90			95		
Ser	Asn	Tyr	Cys	Val	Asn	Gly	Cys	Val	Tyr	Cys	Pro	Tyr	His	Leu	Lys
							100		105			110			
Asn	Lys	Thr	Ile	Ile	Arg	Lys	Lys	Leu	Thr	Gln	Glu	Glu	Ile	Cys	Arg
			115				120					125			
Glu	Val	Ile	Ala	Leu	Gln	Asp	Met	Gly	His	Lys	Arg	Leu	Ala	Leu	Glu
			130				135				140				
Ala	Gly	Glu	Asp	Pro	Val	Arg	Asn	Ser	Ile	Asp	Tyr	Ile	Leu	Glu	Ser
			145			150				155			160		
Ile	Arg	Thr	Ile	Tyr	Ser	Ile	His	His	Lys	Asn	Gly	Ala	Ile	Arg	Arg
						165			170			175			
Val	Asn	Val	Asn	Ile	Ala	Ala	Thr	Thr	Val	Glu	Asn	Tyr	Arg	Lys	Leu
							180		185			190			
Lys	Asp	Ala	Gly	Ile	Gly	Thr	Tyr	Ile	Leu	Phe	Gln	Glu	Thr	Tyr	His
							195		200			205			
Lys	Glu	Asn	Tyr	Glu	Gln	Leu	His	Pro	Thr	Gly	Pro	Lys	Ser	Asn	Tyr
			210				215			220					
Ala	Tyr	His	Thr	Glu	Ala	Met	Asp	Arg	Ala	Met	Gln	Gly	Gly	Ile	Asp
			225			230				235			240		
Asp	Val	Gly	Met	Gly	Val	Leu	Phe	Gly	Leu	Asn	Thr	Tyr	Arg	Tyr	Asp
						245			250			255			
Phe	Val	Gly	Leu	Leu	Met	His	Ala	Glu	His	Leu	Glu	Ala	Val	Tyr	Gly
							260		265			270			
Val	Gly	Pro	His	Thr	Ile	Ser	Val	Pro	Arg	Ile	Cys	Ser	Ala	Asp	Asp
						275		280			285				
Ile	Asn	Ala	Glu	Asp	Phe	Glu	Asn	Ala	Ile	Ser	Asp	Glu	Ile	Phe	Gln
						290		295			300				
Lys	Ile	Val	Ala	Val	Ile	Arg	Ile	Ser	Val	Pro	Tyr	Thr	Gly	Met	Ile
			305			310				315			320		
Ile	Ser	Thr	Arg	Glu	Ser	Gln	Lys	Thr	Arg	Glu	Lys	Val	Leu	Asp	Leu
						325			330			335			
Gly	Ile	Ser	Gln	Ile	Ser	Gly	Gly	Ser	Arg	Thr	Ser	Val	Gly	Gly	Tyr
						340			345			350			
Ala	Glu	Ala	Glu	Thr	Pro	Glu	Glu	Asn	Ser	Ala	Gln	Phe	Asp	Val	Ser
						355			360			365			
Asp	Thr	Arg	Thr	Leu	Asp	Glu	Val	Val	Asn	Trp	Leu	Leu	Lys	Leu	Gly
						370		375			380				
Tyr	Ile	Pro	Ser	Phe	Cys	Thr	Ala	Cys	Tyr	Arg	Ala	Gly	Arg	Thr	Gly
			385			390				395			400		

Asp Gln Phe Met Ser Leu Val Lys Ser Gly Gln Ile Ala Asn Cys Cys
 405 410 415
 Ser Pro Asn Ala Leu Ile Thr Leu Gln Glu Tyr Leu Glu Asp Tyr Ala
 420 425 430
 Ser Glu Glu Thr Lys Ala Arg Gly Val Ala Met Ile Lys Gln Glu Met
 435 440 445
 Gln His Ile Pro Asn Pro Lys Ile Arg Glu Arg Ala Leu Glu Asn Leu
 450 455 460
 Lys Gln Ile Ala Ala Gly Glu Arg Asp Phe Arg Phe
 465 470 475

<210> 9044
 <211> 449
 <212> PRT
 <213> B.fragilis

<400> 9044
 Ile Lys Lys Asp Met Ile Ser Leu Asn Ile Glu Lys Thr Phe Gly Phe
 1 5 10 15
 Ile Ser Lys Glu Ser Val Ser Ala Tyr Glu Ala Gln Val Lys Ala Ala
 20 25 30
 Gln Glu Ala Leu Glu Asn Gly Thr Gly Lys Gly Asn Asp Phe Leu Gly
 35 40 45
 Trp Leu His Leu Pro Ser Ser Ile Ser Lys Glu His Leu Ala Asp Leu
 50 55 60
 Lys Ala Thr Ala Gln Val Leu Arg Asp Asn Cys Glu Val Val Ile Val
 65 70 75 80
 Ala Gly Ile Gly Gly Ser Tyr Leu Gly Ala Arg Ala Val Ile Glu Ala
 85 90 95
 Leu Ser Asn Ser Phe Thr Trp Leu Gln Glu Lys Lys Thr Ala Pro Val
 100 105 110
 Met Ile Tyr Ala Gly His Asn Ile Gly Glu Asp Tyr Leu Tyr Glu Leu
 115 120 125
 Thr Glu Phe Leu Lys Asp Lys Lys Phe Gly Val Ile Asn Ile Ser Lys
 130 135 140
 Ser Gly Thr Thr Glu Thr Ala Leu Ala Phe Arg Leu Leu Lys Lys
 145 150 155 160
 Gln Cys Glu Asp Gln Arg Gly Lys Glu Met Ala Lys Lys Val Ile Val
 165 170 175
 Ala Val Thr Asp Ala Lys Gly Ala Ala Arg Val Thr Ala Asp Lys
 180 185 190
 Glu Gly Tyr Lys Ser Phe Ile Ile Pro Asp Asn Val Gly Gly Arg Phe
 195 200 205
 Ser Val Leu Thr Pro Val Gly Leu Leu Pro Ile Ala Val Ala Gly Phe
 210 215 220
 Asp Ile Glu Gln Leu Val Asn Gly Ala Ala Asp Met Glu Lys Ala Cys
 225 230 235 240
 Gly Ala Asp Val Pro Phe Ala Glu Asn Pro Ala Ala Ile Tyr Ala Ala
 245 250 255
 Thr Arg Asn Glu Leu Tyr Lys Asn Gly Lys Lys Ile Glu Ile Leu Val
 260 265 270
 Asn Phe Cys Pro Lys Leu His Tyr Val Ser Glu Trp Trp Lys Gln Leu
 275 280 285
 Tyr Gly Glu Ser Glu Gly Lys Asp Asn Lys Gly Ile Phe Pro Ala Ala
 290 295 300
 Val Asp Phe Ser Thr Asp Leu His Ser Met Gly Gln Trp Ile Gln Glu
 305 310 315 320
 Gly Glu Arg Thr Ile Phe Glu Thr Val Ile Ser Val Asp Lys Val Asn
 325 330 335

His Lys Leu Glu Val Pro Ser Asp Glu Ala Asn Leu Asp Gly Leu Asn
 340 345 350
 Phe Leu Ala Gly Lys Arg Val Asp Glu Val Asn Lys Met Ala Glu Leu
 355 360 365
 Gly Thr Gln Leu Ala His Val Asp Gly Gly Val Pro Asn Met Arg Ile
 370 375 380
 Val Ile Pro Glu Leu Ser Glu Phe Ser Ile Gly Gln Leu Leu Tyr Phe
 385 390 395 400
 Phe Glu Lys Ala Cys Gly Ile Ser Gly Tyr Leu Leu Gly Val Asn Pro
 405 410 415
 Phe Asn Gln Pro Gly Val Glu Ala Tyr Lys Lys Asn Met Phe Ala Leu
 420 425 430
 Leu Asn Lys Pro Gly Tyr Glu Glu Ser Lys Ala Ile Gln Ala Arg
 435 440 445
 Leu

<210> 9045

<211> 60

<212> PRT

<213> B.fragilis

<400> 9045

Thr	Gly	Ser	Glu	Thr	Ile	Glu	Met	Arg	Thr	Arg	Gln	Leu	Ile	Asp	Thr
1				5					10						15
Asp	Met	Pro	Met	Cys	Met	Asn	Asp	Thr	Glu	Asn	Leu	Thr	Ala	Val	Gln
				20				25							30
Thr	Asp	Met	Leu	Arg	Val	Val	Ala	Asn	Gly	Glu	Tyr	Arg	Phe	Asn	Ser
				35				40							45
Ile	Pro	Val	Val	Arg	Lys	Tyr	Glu	Leu	Gly	Ser	Ala				
				50				55							60

<210> 9046

<211> 442

<212> PRT

<213> B.fragilis

<400> 9046

Gly	Ser	Ala	Leu	Tyr	His	Leu	Phe	Ser	Leu	Phe	Cys	Leu	Gln	Phe	Thr
1				5					10						15
Ile	Tyr	Asn	Leu	Gln	Ile	Lys	Ala	Asn	Ile	Thr	Thr	Phe	Val	Val	Ala
				20				25							30
Lys	Lys	Glu	Met	Met	Lys	Glu	Asn	Pro	Lys	His	Ile	Arg	Ile	Ser	Glu
				35				40							45
Tyr	Asn	Tyr	Pro	Leu	Pro	Asp	Glu	Arg	Ile	Ala	Lys	Phe	Pro	Leu	Pro
				50				55							60
Val	Arg	Asp	Gln	Ser	Lys	Leu	Leu	Ile	Tyr	Arg	His	Gly	Glu	Val	Ser
				65				70							80
Glu	Asp	Val	Phe	Thr	Ser	Leu	Pro	Glu	Tyr	Leu	Pro	Ala	Gly	Ser	Leu
				85				90							95
Met	Ile	Phe	Asn	Asn	Thr	Lys	Val	Ile	Gln	Ala	Arg	Leu	His	Phe	Arg
					100				105						110
Lys	Glu	Thr	Gly	Ala	Leu	Ile	Glu	Val	Phe	Cys	Leu	Glu	Pro	Ile	Gln
					115				120						125
Pro	Asn	Asp	Tyr	Val	Leu	Asn	Phe	Gln	Gln	Thr	Glu	His	Ala	Ala	Trp
				130				135							140
Leu	Cys	Met	Val	Gly	Asn	Leu	Lys	Lys	Trp	Lys	Asp	Gly	Pro	Leu	Cys
				145				150							160
Arg	Glu	Met	Thr	Val	Lys	Gly	Phe	Pro	Ile	Thr	Leu	Thr	Ala	Thr	Arg

	165	170	175												
Gly	Glu	Cys	Arg	Gly	Thr	Ser	His	Trp	Ile	Asp	Phe	Arg	Trp	Asp	Asn
			180		185								190		
Pro	Glu	Val	Thr	Phe	Ala	Asp	Ile	Leu	Glu	Val	Phe	Gly	Glu	Leu	Pro
			195		200							205			
Ile	Pro	Pro	Tyr	Leu	Asn	Arg	Asp	Thr	Glu	Glu	Ser	Asp	Lys	Glu	Thr
			210		215						220				
Tyr	Gln	Thr	Val	Tyr	Ser	Lys	Ile	Lys	Gly	Ser	Val	Ala	Ala	Pro	Thr
			225		230				235				240		
Ala	Gly	Leu	His	Phe	Thr	Pro	Arg	Val	Leu	Asp	Ala	Leu	Thr	Glu	Lys
			245		250				255						
Gly	Ile	Asp	Leu	Glu	Glu	Leu	Thr	Leu	His	Val	Gly	Ala	Gly	Thr	Phe
			260		265				270						
Lys	Pro	Val	Lys	Ser	Glu	Glu	Ile	Glu	Gly	His	Glu	Met	His	Thr	Glu
			275		280				285						
Tyr	Ile	Ser	Val	Ser	Arg	Ser	Ile	Ile	Lys	Lys	Leu	Ile	Asp	His	Asp
			290		295				300						
Ala	Cys	Ala	Ile	Ala	Val	Gly	Thr	Thr	Ser	Val	Arg	Thr	Leu	Glu	Ser
			305		310				315				320		
Leu	Tyr	His	Ile	Gly	Val	Thr	Leu	Ala	Asn	Asn	Pro	Glu	Ala	Thr	Glu
			325		330				335						
Glu	Gln	Leu	His	Val	Lys	Gln	Trp	Gln	Pro	Tyr	Glu	Thr	Glu	Cys	Asp
			340		345				350						
Val	Arg	Pro	Val	Val	Ala	Leu	Gln	Lys	Ile	Leu	Gly	Tyr	Leu	Asp	Arg
			355		360				365						
His	Gly	Met	Glu	Ala	Leu	His	Thr	Ser	Thr	Gln	Ile	Ile	Ile	Ala	Pro
			370		375				380						
Gly	Tyr	Asp	Tyr	Lys	Ile	Val	Lys	Ala	Met	Val	Thr	Asn	Phe	His	Gln
			385		390				395				400		
Pro	Gln	Ser	Thr	Leu	Leu	Leu	Leu	Val	Ser	Ala	Phe	Val	Lys	Gly	Asn
			405		410				415						
Trp	His	Thr	Ile	Tyr	Asp	Tyr	Ala	Leu	Gly	His	Asp	Phe	Arg	Phe	Leu
			420		425				430						
Ser	Tyr	Gly	Asp	Ser	Ser	Leu	Leu	Ile	Pro						
						435			440						

<210> 9047

<211> 81

<212> PRT

<213> B.fragilis

<400> 9047

Tyr	Arg	Ala	Cys	Ser	Leu	Glu	Ile	Pro	Met	Lys	Ile	Tyr	Lys	Ala	Ala
1					5				10				15		
Ala	Gln	Ala	Asp	Lys	His	Ile	Ala	Ala	Ala	Leu	Pro	Val	Lys	Asn	Gly
			20			25				30					
Arg	Val	Glu	Leu	Ile	Ile	Ile	Leu	Arg	Ser	Lys	Val	Leu	Pro	Leu	Asn
			35		40				45						
Ile	Ile	Asp	Thr	Glu	Val	Phe	Arg	Lys	Tyr	Pro	Pro	Leu	Asn	Lys	Thr
			50		55				60						
Asn	Thr	Leu	Trp	Phe	Cys	Tyr	Leu	Asn	Ala	Asp	Asn	Lys	Thr	Ile	Leu
			65		70				75			80			
Ile															

<210> 9048

<211> 591

<212> PRT

<213> B.fragilis

<400> 9048

Glu Lys Phe Arg Ile Phe Ala Ser Lys Ile Glu Leu Ile Ser Asn Glu
 1 5 10 15
 Met Asn Ile Leu Glu Leu Ser Glu Gln Glu Ile Ile Arg Arg Asn Ser
 20 25 30
 Leu Asn Glu Leu Arg Ala Met Gly Ile Glu Pro Tyr Pro Ala Ala Glu
 35 40 45
 Tyr Val Thr Asn Ala Phe Ser Thr Asp Ile Lys Ala Glu Phe Lys Asp
 50 55 60
 Asp Glu Thr Pro Arg Gln Val Ser Val Ala Gly Arg Met Met Ser Arg
 65 70 75 80
 Arg Ile Met Gly Lys Ala Ser Phe Ile Glu Leu Gln Asp Ser Lys Gly
 85 90 95
 Arg Ile Gln Val Tyr Ile Thr Arg Asp Asp Ile Cys Pro Gly Glu Asp
 100 105 110
 Lys Glu Met Tyr Asn Thr Val Phe Lys Arg Leu Leu Asp Leu Gly Asp
 115 120 125
 Phe Ile Gly Ile Glu Gly Phe Val Phe Arg Thr Gln Met Gly Glu Ile
 130 135 140
 Ser Ile His Ala Gln Lys Leu Thr Val Leu Ala Lys Ser Ile Lys Pro
 145 150 155 160
 Leu Pro Ile Val Lys Tyr Lys Asp Gly Val Thr Tyr Asp Ser Phe Glu
 165 170 175
 Asp Pro Glu Leu Arg Tyr Arg Gln Arg Tyr Val Asp Leu Ala Val Asn
 180 185 190
 Glu Gly Val Lys Asp Ile Phe Ile Lys Arg Ser Lys Val Tyr Ser Ser
 195 200 205
 Met Arg Glu Tyr Phe Asn Ser Lys Gly Tyr Met Glu Val Glu Thr Pro
 210 215 220
 Ile Leu Gln Ala Ile Ala Gly Gly Ala Ala Arg Pro Phe Met Thr
 225 230 235 240
 His His Asn Ala Leu Asp Ile Pro Leu Tyr Met Arg Ile Ala Ser Glu
 245 250 255
 Leu Tyr Leu Lys Arg Leu Ile Val Gly Gly Phe Glu Gly Val Tyr Glu
 260 265 270
 Ile Gly Lys Asn Phe Arg Asn Glu Gly Met Asp Arg Thr His Asn Pro
 275 280 285
 Glu Phe Thr Cys Met Glu Ile Tyr Val Ala Tyr Lys Asp Tyr Asn Trp
 290 295 300
 Met Met Glu Phe Thr Glu Lys Met Ile Glu Lys Ile Cys Leu Asp Val
 305 310 315 320
 Asn Gly Thr Thr Glu Val Lys Val Gly Asp Asn Ile Ile Asn Phe Lys
 325 330 335
 Ala Pro Tyr Lys Arg Val Thr Met Leu Gly Ala Ile Lys Glu His Thr
 340 345 350
 Gly Tyr Asp Leu Thr Gly Met Asn Glu Glu Gln Ile Arg Glu Val Cys
 355 360 365
 Lys Lys Leu Asn Met Glu Ile Asp Asp Thr Met Gly Lys Gly Lys Leu
 370 375 380
 Ile Asp Glu Ile Phe Gly Glu Phe Cys Glu Gly Thr Tyr Ile Gln Pro
 385 390 395 400
 Thr Phe Ile Thr Asp Tyr Pro Ile Glu Met Ser Pro Leu Thr Lys Lys
 405 410 415
 His Arg Asp Asn Pro Glu Leu Thr Glu Arg Phe Glu Leu Met Val Asn
 420 425 430
 Gly Lys Glu Leu Cys Asn Ala Tyr Ser Glu Leu Asn Asp Pro Ile Asp
 435 440 445
 Gln Leu Glu Arg Phe Glu Asp Gln Met Lys Leu Ser Glu Lys Gly Asp

450	455	460
Asp Glu Ala Met Ile Ile Asp Lys Asp Phe Val Arg Ala Leu Glu Tyr		
465	470	475
Gly Met Pro Pro Thr Ser Gly Met Gly Ile Gly Met Asp Arg Leu Thr		480
485	490	495
Met Leu Met Thr Gly Gln Ser Thr Ile Gln Glu Val Leu Phe Phe Pro		
500	505	510
Gln Met Arg Pro Glu Lys Val Val Pro Lys Asp Ser Ala Ser Lys Phe		
515	520	525
Met Glu Leu Gly Ile Ala Glu Glu Trp Val Pro Val Ile Gln Lys Ala		
530	535	540
Gly Tyr Asn Gln Val Ala Asp Met Lys Glu Val Asn Pro Gln Lys Phe		
545	550	555
His Gln Asp Ile Cys Gly Ile Asn Lys Lys Tyr Lys Leu Glu Leu Thr		560
565	570	575
Asn Pro Ser Val Asn Asp Val Ala Glu Trp Ile Gln Lys Ile Lys		
580	585	590

<210> 9049

<211> 110

<212> PRT

<213> B.fragilis

<400> 9049

His Arg Ile Arg Gln Ile Glu Leu Asn Leu Leu Ile Asn Asp Ile		
1	5	10
Tyr Leu Cys Lys Ser Val Tyr Ser Val Val Asn Thr Ser Leu Gly Thr		
20	25	30
Pro Ser Asp Thr Arg Ile Ile Ile Gln Phe Arg Ser Ile Thr Gln Lys		
35	40	45
Ile Asp Ile Met Ile Lys Leu Lys Leu Ser Ile Leu Val Trp Ala Ile		
50	55	60
Gly Leu Ser Met Thr Ala Phe Ser Gln Thr Thr Ser Ser Leu Arg Ala		
65	70	75
Lys Val Leu Thr Leu Asn Asp Tyr Pro Asp Ala Leu Arg Leu Trp Glu		80
85	90	95
Leu Tyr Asn Asp Ser Ala Ser Val Glu Gln Lys Asn Pro Ser		
100	105	110

<210> 9050

<211> 183

<212> PRT

<213> B.fragilis

<400> 9050

Arg Val His Arg Gly His Thr Lys Pro Ser Glu Val Leu Val His Ala		
1	5	10
Gly His Glu Pro Phe Lys Met Ala Arg Lys Glu Ala Gly Ile Asp Arg		
20	25	30
Thr Pro Asp Asn Thr Val Asn Lys Tyr Gln Phe Ser Ala Pro Phe Gln		
35	40	45
Trp Asn Phe Leu Ser Thr Leu His Val Asn Leu Lys Phe Leu Ser Ala		
50	55	60
Glu Phe Ile His Ile Gly His Gly His Ser Phe Ile Ile Gly Phe His		
65	70	75
Tyr Gln Met His Leu Ala Glu Leu Ser Gly Thr Thr Arg Leu Leu Phe		80
85	90	95
Val Thr Ile Val Gly Thr Gly Gly Phe Cys Asp Gly Phe Thr Ile Arg		
100	105	110

Asp Leu Arg Phe Phe Lys Phe His Leu Lys Leu Phe Ile Val Leu Gln
 115 120 125
 Thr Pro Phe Gln Arg Thr Glu Val Glu Phe Ser Leu Ala Met His Asp
 130 135 140
 Gly Leu Phe Gln Phe Phe Arg Leu Phe Asp Asp Pro Ser Arg Ile Phe
 145 150 155 160
 Leu Thr His Thr Val Gln Asp Gly His His Leu Phe Arg Ile Gly Leu
 165 170 175
 Val His Arg Leu Asp Gly Ala
 180

<210> 9051

<211> 567

<212> PRT

<213> B.fragilis

<400> 9051

Phe Cys Thr Arg Leu His Lys Ile Ile Asn Tyr Tyr Ile Met Asp Trp
 1 5 10 15
 Leu Gln Asp Leu Leu Trp Asn Pro Asn Ser Val Ala His Ile Val Phe
 20 25 30
 Leu Tyr Ala Phe Val Val Ala Ala Gly Val Tyr Leu Gly Lys Ile Lys
 35 40 45
 Ile Phe Gly Val Ser Leu Gly Val Thr Phe Val Leu Phe Ala Gly Ile
 50 55 60
 Leu Met Gly His Phe Gly Phe Thr Gly Asp Thr His Ile Leu His Phe
 65 70 75 80
 Ile Arg Glu Phe Gly Leu Ile Leu Phe Val Phe Cys Ile Gly Leu Gln
 85 90 95
 Val Gly Pro Ser Phe Phe Ser Ser Phe Lys Lys Gly Gly Met Thr Leu
 100 105 110
 Asn Met Leu Ala Val Gly Ile Val Val Leu Asn Ile Ala Val Ala Met
 115 120 125
 Ala Leu Tyr Phe Ile Leu Gly Gly Arg Ile Glu Leu Pro Met Met Val
 130 135 140
 Gly Ile Leu Tyr Gly Ala Val Thr Asn Thr Pro Gly Leu Gly Ala Ala
 145 150 155 160
 Gln Glu Ala Leu Asn Gln Leu Ser Tyr Ser Gly Pro Gln Ile Ala Leu
 165 170 175
 Gly Tyr Ala Cys Ala Tyr Pro Leu Gly Val Val Gly Ile Ile Gly Ser
 180 185 190
 Ile Ile Ala Val Arg Tyr Ile Phe Arg Ile Asn Phe Ala Lys Glu Glu
 195 200 205
 Glu Asn Trp Asn Gln Glu Thr Asp Gly Thr His His Lys Pro His Leu
 210 215 220
 Met Ser Leu Glu Val His Asn Glu Ala Ile Tyr Gly Lys Thr Leu Gly
 225 230 235 240
 Thr Ile Ser Ser Phe Leu Gly Arg Pro Phe Val Cys Ser Arg Ile Arg
 245 250 255
 Lys Asn Gly His Val Ser Ile Pro Asn His Gly Thr Ile Leu Glu Gln
 260 265 270
 Asn Asp Gln Leu Phe Val Val Cys Ser Glu Glu Asp Ser Asp Ala Ile
 275 280 285
 Val Ala Phe Ile Gly Arg Glu Val Gln Val Asp Trp Glu Lys Gln Asp
 290 295 300
 Met Pro Met Val Ser Arg Arg Ile Leu Val Thr Lys Pro Glu Ile Asn
 305 310 315 320
 Gly Lys Lys Leu Gly Met Leu Asn Phe Arg Ser Met Tyr Asn Val Asn
 325 330 335

Ile Thr Arg Val Asn Arg Ser Gly Val Asp Leu Phe Ala Asn Pro Asn
 340 345 350
 Leu Ile Leu Gln Val Gly Asp Arg Val Met Val Val Gly Ser Glu Asp
 355 360 365
 Ala Val Glu Arg Val Ala Ser Val Leu Gly Asn Ser Leu Lys Arg Leu
 370 375 380
 Asn Glu Pro Asn Ile Ile Thr Leu Phe Val Gly Ile Phe Leu Gly Ile
 385 390 395 400
 Leu Cys Gly Ser Leu Pro Ile Ala Phe Pro Gly Met Pro Thr Pro Val
 405 410 415
 Lys Leu Gly Leu Ala Gly Gly Pro Leu Val Val Ala Ile Leu Ile Gly
 420 425 430
 Arg Phe Gly His Lys Leu His Leu Val Thr Tyr Thr Thr Gln Ser Ala
 435 440 445
 Asn Leu Met Ile Arg Glu Ile Gly Ile Val Leu Phe Leu Ala Ser Val
 450 455 460
 Gly Ile Glu Ala Gly Ala Asn Phe Val Asp Thr Val Ile His Gly Asp
 465 470 475 480
 Gly Leu Leu Tyr Val Gly Cys Gly Phe Leu Ile Thr Ile Ile Pro Leu
 485 490 495
 Leu Ile Ile Gly Val Ile Ala Arg Ser Tyr Tyr Lys Ile Asn Tyr Phe
 500 505 510
 Met Leu Met Gly Leu Ile Ala Gly Ser Asn Thr Asp Pro Pro Ala Leu
 515 520 525
 Ala Tyr Ser Asn Gln Ala Thr Gly Ser Asp Ala Pro Ala Val Gly Tyr
 530 535 540
 Ser Thr Val Tyr Pro Leu Ser Met Phe Leu Arg Ile Leu Ala Gly Gln
 545 550 555 560
 Met Ile Leu Leu Leu Met Met
 565

<210> 9052

<211> 311

<212> PRT

<213> B.fragilis

<400> 9052

Arg Gly Tyr Arg Thr Glu Arg Asn Tyr Asn Thr Ile Asn Met Lys Ser
 1 5 10 15
 Lys Leu Leu Tyr Leu Leu Thr Tyr Val Gly Met Trp Leu Leu Ala Val
 20 25 30
 Leu Pro Phe Pro Val Leu Tyr Ala Leu Ser Asp Phe Ile Tyr Phe Trp
 35 40 45
 Leu Tyr His Val Ile Gly Tyr Arg Arg Lys Val Val Arg Thr Asn Leu
 50 55 60
 Lys Asn Ser Phe Pro Glu Lys Ser Ala Ala Glu Leu Lys Ala Ile Glu
 65 70 75 80
 Arg Lys Phe Phe His Tyr Leu Cys Asp Tyr Met Leu Glu Asp Val Lys
 85 90 95
 Met Leu Arg Met Ser Glu Lys Glu Leu Cys Lys Arg Met Thr Tyr Glu
 100 105 110
 Asn Lys Glu Thr Tyr Leu Arg Met Ile Asp Glu Arg Gly Gly Ile Val
 115 120 125
 Leu Leu Ile Pro His Tyr Ala Asn Phe Glu Trp Ile Thr Gly Met Gly
 130 135 140
 Met Ile Met Arg Pro Gly Asp Val Pro Val Gln Val Tyr Lys Pro Leu
 145 150 155 160
 Lys Asp Val Tyr Leu Asp Gly Leu Phe Lys Tyr Ile Arg Ala Arg Phe
 165 170 175

Gly Gly Tyr Asn Val Pro Lys His Ser Thr Ala Arg Glu Val Ile Lys
 180 185 190
 Leu Lys Arg Ala Gly Lys Lys Met Ala Ile Gly Leu Ile Thr Asp Gln
 195 200 205
 Ser Pro Asn Met His Glu Ala His Tyr Trp Thr Thr Phe Leu Asn Gln
 210 215 220
 Asp Thr Val Phe Met Asp Gly Ala Glu Arg Ile Ala Lys Met Met Asp
 225 230 235 240
 Phe Pro Val Phe Tyr Cys Glu Leu Arg Lys Glu Arg Arg Gly Tyr Cys
 245 250 255
 Arg Val Asp Phe Asp Leu Val Thr Asp Arg Pro Lys Glu Thr Ala Asp
 260 265 270
 Gly Glu Ile Thr Glu Ile Phe Ala Arg Arg Leu Glu Gln Thr Ile Arg
 275 280 285
 Lys Glu Pro Ala Tyr Trp Leu Trp Ser His Lys Arg Trp Lys Leu Lys
 290 295 300
 Arg Pro Glu Lys Lys Asn Glu
 305 310

<210> 9053

<211> 633

<212> PRT

<213> B.fragilis

<400> 9053

Leu Ile Asn Arg Lys Met Lys Lys Gln Asn Ser Ile Tyr Thr Leu Leu
 1 5 10 15
 Ile Ala Leu Leu Cys Phe Val Ser Ser Cys Asp Tyr Leu Gly Val Ser
 20 25 30
 Asp Gln Leu Ala Gly Gly Leu Gln Asn Thr Glu Gln Val Phe Asp Asn
 35 40 45
 Val Ser Tyr Thr Lys Arg Trp Tyr Ala Asn Val Phe Ala Gly Ile Pro
 50 55 60
 Asp Tyr Ser Gly Ile Asn Ser Val Asn Val Gly Ala Phe Lys Asn Pro
 65 70 75 80
 Trp Thr Gly Met Cys Asp Glu Leu Val Val Gly Tyr Gly Asn Ser Ser
 85 90 95
 Lys Tyr Asn Asn Ser Asp Arg Asn Ala Ala Asn Met Gly Phe His Arg
 100 105 110
 Tyr Gly Asp Cys Tyr Lys Tyr Ile Arg Gln Ala Asn Ile Phe Leu Gln
 115 120 125
 Lys Ala His Pro Ile Met Thr Thr Gly Thr Gln Gly Asp Gln Leu Leu
 130 135 140
 Glu Asp Glu Leu Thr Gln Met Lys Ala Asn Val Arg Phe Met Arg Ala
 145 150 155 160
 Phe Tyr His Tyr Leu Leu Phe Glu Gln Tyr Gly Pro Ile Ile Leu Val
 165 170 175
 Lys Asp Lys Ile Tyr Asn Ala Thr Glu Asp Gln Asp Val Pro Arg Asn
 180 185 190
 Thr Val Asp Glu Val Ile Glu Tyr Ile Asp Ser Glu Leu Thr Ala Val
 195 200 205
 Ala Ser Glu Leu Thr Gln Glu Pro Ile Phe Glu Asp Lys Asp Tyr Arg
 210 215 220
 Ala Trp Pro Thr Lys Gly Val Ala Leu Ala Val Arg Ala Lys Leu Trp
 225 230 235 240
 Leu Tyr Ala Ala Ser Pro Leu Leu Asn Gly Gly Tyr Arg Glu Ala Leu
 245 250 255
 Ser Val Thr Asn Pro Asp Gly Thr Arg Leu Phe Pro Asp Tyr Asp Ala
 260 265 270

Gly Lys Trp Glu Lys Ala Leu Ala Ala Cys Lys Asp Phe Ile Asp Tyr
 275 280 285
 Ala Glu Ala Gly Arg Tyr Glu Leu Tyr Lys Glu Tyr Lys Asp Asp Asn
 290 295 300
 Gly Ala Val Ile Asp Pro Asp Lys Ser Val Tyr Asn Leu Phe Gln Lys
 305 310 315 320
 Tyr Thr His Glu Ile Ile Trp Ala Thr Ala Asn Asn Asp Trp Gly Gly
 325 330 335
 Met Asn Gly Asp Ala Phe Asp Arg Arg Ile Ala Pro Arg Cys Glu Lys
 340 345 350
 Asn Gly Leu Gly Ser Thr Gly Val Thr Gln Glu Leu Val Asp Ala Phe
 355 360 365
 Tyr Met Lys Asp Gly Phe Pro Val Ser Ala Thr Ala Tyr Leu Pro Gln
 370 375 380
 Ser Thr Leu Tyr Gln Glu Glu Gly Tyr Gly Thr Tyr Lys Asp Gln Asn
 385 390 395 400
 Asp Asn Phe Ser Lys Lys Tyr Thr Asn Val Thr Val Ser Asn Arg Tyr
 405 410 415
 Leu Asn Arg Glu Pro Arg Phe Tyr Asn Thr Val Phe Phe Asn Gly Arg
 420 425 430
 Gln Trp Pro Val Ser Cys Asn Gln Val Leu Phe Tyr Asn Gly Gly Asn
 435 440 445
 Ser Gly Val Gln Glu Gly Gln Ala Thr Leu Thr Gly Tyr Met Leu Phe
 450 455 460
 Lys Arg Phe Asn Arg Ser Val Ser Leu Thr Asn Pro Gly Val Ala Ser
 465 470 475 480
 Gln Phe Arg Pro Ser Ile Ile Phe Arg Leu Ala Asp Phe Tyr Leu Met
 485 490 495
 Tyr Ala Glu Ala Ala Asn Glu Val Asn Pro Asn Asp Ala Arg Val Leu
 500 505 510
 Lys Tyr Leu Asn Leu Val Arg Glu Arg Ala Gly Leu Pro Asp Ile Glu
 515 520 525
 Thr Leu Asn Pro Ala Ile Arg Gly Asn Gln Glu Leu Gln Arg Ala Ala
 530 535 540
 Ile Gln Arg Glu Arg Gln Ile Glu Leu Ala Thr Glu Gly Gln Arg Tyr
 545 550 555 560
 Phe Asp Val Arg Arg Trp Met Ile Ala Asp Lys Asn Gly Glu Gly Arg
 565 570 575
 Gln Asn Gly Tyr Val His Gly Met Asn Val Arg Gly Glu Ser Asn Asp
 580 585 590
 Lys Glu Asp Phe Asn Arg Ile Val Glu Ala Ser Gln Ile Val Phe Asn
 595 600 605
 Arg Lys Met Tyr Leu Tyr Pro Met Pro Asp Ser Glu Met Arg Lys Thr
 610 615 620
 Lys Asn Leu Val Gln Asn Pro Gly Trp
 625 630

<210> 9054

<211> 354

<212> PRT

<213> B.fragilis

<400> 9054

Ile Val Asn Arg Thr Met Lys Ile Gly Asp Lys Val Arg Phe Leu Ser
 1 5 10 15
 Glu Val Gly Gly Ile Val Lys Gly Phe Arg Gly Lys Asp Ile Val
 20 25 30
 Leu Val Glu Asp Ala Asp Gly Phe Asp Ile Pro Met Gln Ile Arg Glu
 35 40 45

Cys Val Val Ile Asp Thr Asp Asp Tyr Asn Met Thr Arg Lys Ala Ala
 50 55 60
 Pro Ala Pro Lys Lys Pro Glu Glu Pro Val Lys Pro Val Lys Pro Glu
 65 70 75 80
 Ile Pro Val Val Arg Ser Ala Glu Val Arg Gly Gly Asp Val Leu Asn
 85 90 95
 Val Phe Leu Ala Tyr Val Pro Glu Asp Val Lys Ala Ile Ser Ser Thr
 100 105 110
 Ser Phe Glu Ala Tyr Leu Val Asn Asp Ser Asn Tyr Tyr Leu Tyr Tyr
 115 120 125
 Thr Tyr Gln Ser Ala Glu Gly Lys Ala Trp Lys Thr Arg Ser His Gly
 130 135 140
 Leu Val Glu Pro Asn Thr Lys Leu Leu Glu Glu Phe Thr Lys Asp
 145 150 155 160
 Met Leu Asn Glu Met Glu His Val Ala Val Gln Phe Ile Ala Phe Lys
 165 170 175
 Asp Gly Arg Thr Ala Pro Leu Lys Pro Ala Val Cys Val Glu Leu Arg
 180 185 190
 Ile Asp Thr Val Lys Phe Tyr Lys Leu His Thr Phe Arg Glu Ser Asp
 195 200 205
 Phe Phe Glu Gln Pro Ala Leu Val Tyr Asp Ile Val Lys Asp Asp Val
 210 215 220
 Pro Thr Arg Gln Val Phe Val Ser Ala Glu Glu Leu Gln Ser Val Leu
 225 230 235 240
 Ile Gln Lys Lys Glu Val Asp Lys Pro Lys Ser Gln Pro Ile Val Lys
 245 250 255
 Arg Gly Gly Lys Asn Glu Ile Leu Glu Ile Asp Leu His Ile Asn Glu
 260 265 270
 Leu Leu Asp Asp Thr Arg Gly Met Gly Asn Ala Glu Ile Leu Asn Tyr
 275 280 285
 Gln Leu Asp Lys Phe Arg Glu Val Met Glu Lys Tyr Lys Ala Lys Arg
 290 295 300
 Glu Gln Lys Ile Val Phe Ile His Gly Lys Gly Asp Gly Val Leu Arg
 305 310 315 320
 Lys Ala Leu Ile Asp Glu Leu Lys Arg Lys Tyr Ser Asn Cys Arg Tyr
 325 330 335
 Gln Asp Ala Ser Phe Gln Glu Tyr Gly Phe Gly Ala Thr Met Val Thr
 340 345 350
 Ile Lys

<210> 9055
 <211> 161
 <212> PRT
 <213> B.fragilis

<400> 9055
 Cys Lys Arg Leu Ile Asn Lys Ile Ile Ile Met Asp Ile Ile Ser Leu
 1 5 10 15
 Arg Lys Ser Pro Gln Tyr Leu Glu Glu Ala Ile Ala Tyr Phe Gln Arg
 20 25 30
 Lys Trp Ala Asp Glu Asn Ser Arg Met Val Tyr Asp Asn Cys Phe Arg
 35 40 45
 Thr Cys Leu Glu Ser Glu Ser Pro Leu Pro Gln Trp Tyr Leu Leu Ile
 50 55 60
 Asn Gly Glu Gly Glu Ile Ile Gly Cys Ala Gly Leu Ala Thr Asn Asp
 65 70 75 80
 Phe Asn Ser Arg Met Asp Leu Tyr Pro Trp Leu Val Ala Leu Phe Ile
 85 90 95

Glu Glu Gln Tyr Arg Gly His Asn Tyr Gly Asn Leu Leu Ile Lys Ala
 100 105 110
 Val Glu Glu Asp Thr Arg Arg Leu Gly Phe Gly Asn Leu Tyr Leu Cys
 115 120 125
 Thr Thr His Thr Gly Tyr Tyr Glu His Phe Asn Phe Val Tyr Ile Gly
 130 135 140
 Asp Cys Tyr His Pro Trp Gly Glu His Thr Arg Val Tyr Gln Lys Glu
 145 150 155 160
 Ile

<210> 9056
 <211> 177
 <212> PRT
 <213> B.fragilis

<400> 9056
 Asn Met Gln Ser Asp Asn Asn Gln Glu Met Phe Pro Ile Val Asp Glu
 1 5 10 15
 Gln Gly Thr Ile Thr Gly Ala Ala Thr Arg Gly Glu Cys His Ser Gly
 20 25 30
 Ser Lys Leu Leu His Pro Val Val His Leu His Val Phe Asn Ser Lys
 35 40 45
 Gly Glu Leu Tyr Leu Gln Lys Arg Pro Glu Trp Lys Asp Ile Gln Pro
 50 55 60
 Gly Lys Trp Asp Thr Ser Val Gly Gly His Ile Asp Leu Gly Glu Ser
 65 70 75 80
 Val Glu Ile Ala Leu Lys Arg Glu Val Ala Glu Glu Leu Gly Ile Thr
 85 90 95
 Asp Phe Thr Pro Glu Leu Leu Thr Ser Tyr Val Phe Glu Ser Ala Arg
 100 105 110
 Glu Arg Glu Leu Val Phe Val His Lys Thr Val Tyr Asp Gly Glu Ile
 115 120 125
 His Pro Ser Asp Glu Leu Asp Gly Gly Arg Phe Trp Ser Tyr Glu Glu
 130 135 140
 Ile Lys Thr Asn Leu Gly Lys Gly Val Phe Thr Pro Asn Phe Glu Ser
 145 150 155 160
 Glu Ile Asp Lys Val Glu Ile Phe Ser Ser Thr Ser Pro Lys Glu Ala
 165 170 175
 Val

<210> 9057
 <211> 191
 <212> PRT
 <213> B.fragilis

<400> 9057
 Val Phe Met Arg Arg Ser Ile Leu Asp Ile Phe Leu Phe Leu Val
 1 5 10 15
 Ile Ile Ser Thr Ala Ala Cys Asn Asn Asp Leu Pro Phe Asp Leu Lys
 20 25 30
 Glu Asn Pro Pro Lys Leu Val Met Asn Ala Ile Ile Asn Ala Asp Ser
 35 40 45
 Thr Tyr Asn Thr Leu Phe Leu Asn Leu Thr Gly Arg Asn Gln Ile Gly
 50 55 60
 Gln Ile Lys Gly Ala Thr Val Glu Val Arg Ile Asn Gly Ser Leu Ser
 65 70 75 80
 Glu Thr Leu Arg Pro Asp Pro His Ser Ser Asp Lys Gly Arg Phe Tyr

	85	90	95
Ile Asn Ser Ala Phe His Pro Gly Asp Val Val Arg Ile Asp Ala Met			
100	105	110	
Thr Asp Asp Gly Glu His His Ala Trp Thr Glu Val Thr Val Pro Gln			
115	120	125	
Pro Ile Gly Lys Ile Glu Lys Val Asp Thr Ala Ser Ile Met Arg Lys			
130	135	140	
Pro Ser Asn Tyr Gly Tyr Gly Thr Pro Pro Arg Arg His Leu Arg Tyr			
145	150	155	160
Gln Ile Lys Ile Lys Asp Pro Pro Gly Arg Glu Glu Phe Leu Ser Asp			
165	170	175	
His Cys Gly Thr Thr Glu Ile Leu Glu Ile Leu Leu Gly Thr Lys			
180	185	190	

<210> 9058

<211> 728

<212> PRT

<213> B.fragilis

<400> 9058

Leu Asp Met Arg Lys Ser Asn Pro Asp Phe His His Ile Arg Ser Tyr			
1	5	10	15
Ile Leu Met Cys Val Val Ser Leu Thr Phe Ser Thr Ile Tyr Ala Gln			
20	25	30	
Thr Pro Glu Pro Lys Leu Thr Leu Lys Leu Gln Asn Thr Ser Leu Ser			
35	40	45	
Glu Val Ile Arg Gln Ile Glu Gln Asp Thr Gly Phe Ser Phe Ile Tyr			
50	55	60	
Gly Glu Glu Val Lys Leu Asp His Lys Val Ser Leu Asn Val Gln Lys			
65	70	75	80
Lys Pro Leu Arg Glu Val Leu Asn Leu Leu Phe Ala Asn Lys Pro Ile			
85	90	95	
Ser Tyr Lys Ile Thr Gly Lys His Ile Leu Leu Gln Lys Thr Pro Pro			
100	105	110	
Lys Pro Val Ser Arg Lys Phe Thr Val Ser Gly Tyr Val Thr Asp Gly			
115	120	125	
Ala Ser Ala Glu Thr Leu Ile Gly Ala Asn Ile Leu Glu Ser Arg His			
130	135	140	
His Gln Gly Thr Thr Asn Pro Tyr Gly Phe Tyr Ser Ile Thr Leu			
145	150	155	160
Pro Glu Gly Glu Ala Arg Leu Ser Phe Ser Tyr Leu Gly Tyr Thr Gly			
165	170	175	
Gln Gln His Val Leu Asn Leu Thr Ala Asp Thr Leu Leu Asn Ile Arg			
180	185	190	
Met Lys Asp Asn Asn Met Leu Gln Glu Val Val Ile Val Ser Asp Lys			
195	200	205	
Ala Glu Ser Gly Val Met Ala Thr Gln Met Gly Ala Ser Glu Ile Pro			
210	215	220	
Met Thr Gln Ile Lys Asn Thr Pro Ser Ile Leu Gly Glu Ala Asp Val			
225	230	235	240
Met Lys Ala Ile Gln Leu Met Pro Gly Val Gln Ala Gly Met Glu Gly			
245	250	255	
Ser Ala Gly Leu Tyr Val Arg Gly Gly Pro Asp Gln Asn Leu Ile			
260	265	270	
Leu Leu Asp Gly Val Pro Val Tyr Asn Val Asp His Leu Leu Gly Phe			
275	280	285	
Phe Ser Val Phe Thr Pro Glu Ala Val Lys Lys Val Thr Leu Phe Lys			
290	295	300	
Ser Ser Phe Pro Ala Arg Phe Gly Gly Arg Leu Ser Ser Val Ile Asp			

305	310	315	320
Val Arg Thr Asn Asp Gly Asp Met Lys Asn Tyr His Gly Val Val Ser			
325	330	335	
Val Gly Leu Leu Thr Ser Lys Ile Asn Phe Glu Gly Pro Ile Ile Lys			
340	345	350	
Asn Arg Thr Ser Phe Asn Ile Ser Ala Arg Arg Ser Tyr Ile Asp Leu			
355	360	365	
Leu Ala Lys Pro Phe Met Pro Lys Asp Glu Lys Tyr Ser Tyr Tyr Phe			
370	375	380	
Phe Asp Val Asn Ala Lys Ile Asn His Lys Phe Ser Asp Arg Ser Arg			
385	390	395	400
Leu Phe Leu Ser Ala Tyr Asn Gly Lys Asp His Phe Met Thr Lys Tyr			
405	410	415	
Asp Asp Thr Tyr Tyr Gly Asp Glu Asp Lys Tyr Arg Asp Gly Gly Lys			
420	425	430	
Met Asn Trp Gly Asn Thr Ile Val Ser Gly Arg Trp Asn Tyr Ile Phe			
435	440	445	
Asn Asn Lys Leu Phe Ser Asn Thr Thr Val Ala Phe Asn Asn Tyr Lys			
450	455	460	
Phe Asp Val Ser Thr Phe Thr Lys Asn Glu Ile His Thr Asn Asn Gln			
465	470	475	480
Ile Thr Trp Asn Arg Tyr Lys Ala Asp Tyr Lys Ser Gly Ile Arg Asp			
485	490	495	
Trp Ser Ala Gln Ile Asp Phe Asp Tyr Asn Pro Ile Pro Thr His His			
500	505	510	
Val Lys Phe Gly Val Gln Tyr Leu His His Ser Phe Arg Pro Glu Val			
515	520	525	
Ser Thr Ser Lys Ile Phe Asp Lys Thr Gly Glu Thr Ile Glu Arg Asp			
530	535	540	
Thr Thr Tyr Tyr Thr Ser Asn Ser Glu Ile Leu Ala His Glu Ala			
545	550	555	560
Ser Ala Tyr Leu Glu Asp Asn Phe Asn Leu Ser Ser Arg Leu Arg Met			
565	570	575	
Asn Leu Gly Leu His Phe Ser Thr Phe Gln Val Gln Lys Lys Asn Tyr			
580	585	590	
Phe Ser Val Gln Pro Arg Ile Ser Ala Arg Tyr Gln Leu Ser Lys Asp			
595	600	605	
Val Val Leu Lys Ala Ser Tyr Thr Lys Met Ser Gln Tyr Val His Leu			
610	615	620	
Ile Ser Ser Met Pro Phe Ala Met Pro Thr Asp Leu Trp Val Pro Val			
625	630	635	640
Thr Ser Lys Ile Lys Pro Met Gln Ala His Gln Val Ser Leu Gly Gly			
645	650	655	
Tyr Tyr Thr Gly Ile Asp Gly Trp Glu Phe Ser Ile Glu Gly Tyr Tyr			
660	665	670	
Lys Gly Met Lys Asn Val Leu Glu Tyr Lys Asp Gly Val Ser Phe Leu			
675	680	685	
Gly Ser Ser Thr Gly Trp Glu Asp Lys Val Glu Met Gly His Gly Pro			
690	695	700	
Leu Tyr Gly Cys Arg Val His Gly Thr Glu Asn His Arg Lys Asp Asn			
705	710	715	720
Gly Met Ala Gly Ile Tyr Pro Gly			
725			

<210> 9059

<211> 717

<212> PRT

<213> B.fragilis

<400> 9059

Ser Lys Met Arg Lys Asp Phe Lys Asn Leu Asp Ile Tyr Ala Ala Phe
 1 5 10 15
 Gln Pro Ala Asn Gly Ala Glu Trp Gln Lys Ala Asn Gly Ile Glu Ala
 20 25 30
 Asn Trp Lys Thr Pro Glu His Ile Cys Val Lys Pro Val Tyr Thr Lys
 35 40 45
 Glu Asp Leu Glu Gly Met Glu His Leu Asp Tyr Ala Ala Gly Leu Pro
 50 55 60
 Pro Tyr Leu Arg Gly Pro Tyr Ser Val Met Tyr Thr Leu Arg Pro Trp
 65 70 75 80
 Thr Ile Arg Gln Tyr Ala Gly Phe Ser Thr Ala Glu Glu Ser Asn Ala
 85 90 95
 Phe Tyr Arg Arg Asn Leu Ala Ser Gly Gln Lys Gly Leu Ser Val Ala
 100 105 110
 Phe Asp Leu Ala Thr His Arg Gly Tyr Asp Pro Asp His Glu Arg Val
 115 120 125
 Val Gly Asp Val Gly Lys Ala Gly Val Ser Ile Cys Ser Leu Glu Asn
 130 135 140
 Met Lys Val Leu Phe Asp Gly Ile Pro Leu Asn Lys Met Ser Val Ser
 145 150 155 160
 Met Thr Met Asn Gly Ala Val Leu Pro Ile Met Ala Phe Tyr Ile Asn
 165 170 175
 Ala Gly Leu Glu Gln Gly Ala Lys Leu Glu Glu Met Ala Gly Thr Ile
 180 185 190
 Gln Asn Asp Ile Leu Lys Glu Phe Met Val Arg Asn Thr Tyr Ile Tyr
 195 200 205
 Pro Pro Ala Phe Ser Met Lys Ile Ile Ser Asp Ile Phe Glu Tyr Thr
 210 215 220
 Ser Gln Lys Met Pro Lys Phe Asn Ser Ile Ser Ile Ser Gly Tyr His
 225 230 235 240
 Met Gln Glu Ala Gly Ala Thr Ala Asp Ile Glu Leu Ala Tyr Thr Leu
 245 250 255
 Ala Asp Gly Leu Glu Tyr Leu Arg Ala Gly Val Ala Ala Gly Ile Asp
 260 265 270
 Ile Asp Ala Phe Ala Pro Arg Leu Ser Phe Phe Trp Ala Ile Gly Thr
 275 280 285
 Asn His Phe Met Glu Ile Ala Lys Met Arg Ala Ala Arg Met Leu Trp
 290 295 300
 Ala Lys Ile Val Lys Gln Phe Asn Pro Lys Asn Pro Lys Ser Leu Ala
 305 310 315 320
 Leu Arg Thr His Ser Gln Thr Ser Gly Trp Ser Leu Thr Glu Gln Asp
 325 330 335
 Pro Phe Asn Asn Val Gly Arg Thr Cys Ile Glu Ala Met Ala Ala Ala
 340 345 350
 Leu Gly His Thr Gln Ser Leu His Thr Asn Ala Leu Asp Glu Ala Ile
 355 360 365
 Ala Leu Pro Thr Asp Phe Ser Ala Arg Ile Ala Arg Asn Thr Gln Ile
 370 375 380
 Tyr Ile Gln Glu Glu Thr Tyr Ile Cys Lys Asn Val Asp Pro Trp Gly
 385 390 395 400
 Gly Ser Tyr Tyr Val Glu Ser Leu Thr Asn Glu Leu Ala His Ser Ala
 405 410 415
 Trp Glu His Ile Gln Glu Ile Glu Lys Leu Gly Gly Met Ala Lys Ala
 420 425 430
 Ile Glu Thr Gly Ile Pro Lys Met Arg Ile Glu Glu Ala Ala Ala Arg
 435 440 445
 Ala Gln Ala Arg Ile Asp Ser Gly Ser Gln Thr Ile Val Gly Val Asn
 450 455 460

Lys Tyr Arg Leu Glu Lys Glu Asp Pro Ile Asp Ile Leu Glu Val Asp
 465 470 475 480
 Asn Thr Ala Val Arg Lys Glu Gln Ile Glu Asn Leu Lys Arg Leu Lys
 485 490 495
 Glu Gly Arg Asn Gln Ala Glu Val Asp Lys Ala Leu Ala Ala Ile Thr
 500 505 510
 Glu Cys Val Lys Thr Gly Lys Gly Asn Leu Leu Glu Leu Ala Val Glu
 515 520 525
 Ala Ala Arg Val Arg Ala Thr Leu Gly Glu Ile Ser Tyr Ala Cys Glu
 530 535 540
 Gln Ile Val Gly Arg Tyr Lys Ala Ile Ile Arg Thr Ile Ser Gly Val
 545 550 555 560
 Tyr Ser Ser Glu Ser Lys Gly Asp Ala Asp Phe Lys Arg Ala Cys Glu
 565 570 575
 Leu Thr Glu Lys Phe Ala Lys Lys Glu Gly Arg Gln Pro Arg Ile Met
 580 585 590
 Val Ala Lys Met Gly Gln Asp Gly His Asp Arg Gly Ala Lys Val Val
 595 600 605
 Ala Thr Gly Tyr Ala Asp Cys Gly Phe Asp Val Asp Met Gly Pro Leu
 610 615 620
 Phe Gln Thr Pro Ala Glu Ala Ala Arg Glu Ala Val Glu Asn Asp Val
 625 630 635 640
 His Val Val Gly Val Ser Ser Leu Ala Ala Gly His Lys Thr Leu Val
 645 650 655
 Pro Gln Ile Ile Glu Glu Leu Lys Lys Leu Gly Arg Glu Asp Ile Val
 660 665 670
 Val Ile Ala Gly Gly Val Ile Pro Ala Gln Asp Tyr Asp Phe Leu Tyr
 675 680 685
 Lys Ala Gly Val Ala Ala Ile Phe Gly Pro Gly Thr Pro Val Ala Lys
 690 695 700
 Ala Ala Cys Gln Ile Leu Glu Ile Leu Met Asp Glu Asp
 705 710 715

<210> 9060

<211> 72

<212> PRT

<213> B.fragilis

<400> 9060

Arg Arg Thr Gly Ser Arg Leu Phe Tyr Arg Ile Ser Ala Ile Asp Val
 1 5 10 15
 Ser Pro Tyr Pro Cys Gly Thr Asn Asp Ile Val Ala Asn Asp Val Ile
 20 25 30
 Thr Ile His Pro Asp Thr Ala Met Ala Ser Tyr His Val Phe Ile Tyr
 35 40 45
 Ile Val Ile Gly His Phe Tyr Met Val Thr Ala Ser Ile Thr Lys Pro
 50 55 60
 Val Ser Ser Pro Gln Ile Leu Leu
 65 70

<210> 9061

<211> 201

<212> PRT

<213> B.fragilis

<400> 9061

Thr Met Lys Gly Ser Leu Ile Ile Val Ser Phe Phe Ile Val Gly Thr
 1 5 10 15
 Leu Cys Gly Leu Phe Gln Leu Ile Pro Tyr Asp Phe Ser Gln Ser Lys

20	25	30
Leu Ser Phe Tyr Ala Leu Cys Gly	Leu Met Phe Cys Val	Gly Ile Ser
35	40	45
Ile Gly Asn Asp Pro Gln Thr	Leu Lys Ser Phe Arg	Ser Leu Asn Pro
50	55	60
Arg Leu Leu Phe Leu Pro Val	Met Thr Ile Leu	Gly Thr Leu Ala Gly
65	70	75
Cys Ala Val Val Ser Leu Phe	Leu Ser His Arg Ser	Pro Ser Asp Cys
85	90	95
Met Ala Val Gly Ser Gly Phe	Tyr Tyr Ser Leu Ser	Ser Ile Phe
100	105	110
Ile Thr Glu Tyr Lys Gly Ala	Glu Leu Gly Thr Ile	Ala Leu Leu Ser
115	120	125
Asn Ile Met Arg Glu Ile Ile	Ala Leu Leu Cys Ala	Pro Leu Leu Val
130	135	140
Lys Phe Phe Gly Lys Leu Ala	Pro Ile Ser Val	Gly Gly Ala Thr Thr
145	150	155
Met Asp Thr Thr Leu Pro Ile Ile	Thr Arg Cys Ser Gly	Gln Glu Phe
165	170	175
Val Ile Val Ser Ile Phe His	Gly Phe Ile Val Asp	Phe Ser Val Pro
180	185	190
Phe Leu Val Thr Leu Phe Cys	Ser Ile	
195	200	

<210> 9062

<211> 912

<212> PRT

<213> B.fragilis

<400> 9062

Lys Leu Ile Leu Lys Pro Thr Gln Gln	Lys Arg Phe Lys Leu	Met Arg
1	5	10
Lys Pro Phe Met Leu Ile Ser Val	Leu Pro Ile Thr Val	His Ile Ser
20	25	30
His Asp Thr Asp Thr Gly Ser Asn Arg	Ile Gly Gly Ile	Pro Glu Lys
35	40	45
Tyr Ala Phe Lys Asn Lys Val	Leu Arg Ser Ile Cys	Phe Val Leu Phe
50	55	60
Leu Leu Ser Ile Gly Leu Asn Ser Ala	Phe Ala Gln Val	Arg Asn Ala
65	70	75
Ala Gly Leu Val Val Asp Glu Asn	Gly Gln Pro Leu Ile	Gly Val Gln
85	90	95
Ile Lys Leu Glu Gly Thr Thr Gly	Val Ile Thr Asp	Val Asp Gly
100	105	110
Asn Phe Ser Ile Asn Ala Lys	Lys Gly Asp Ile	Leu Phe Ser Tyr
115	120	125
Val Gly Tyr Glu Pro Gln Arg	Ile Thr Tyr Lys	Gly Glu Lys Ile Leu
130	135	140
Ala Ile Lys Met Leu Pro Asn Thr	Glu Leu Leu Asp	Glu Val Val Val
145	150	155
Ile Gly Tyr Gly Lys Gln Lys	Asn Ser Val Val	Ser Ser Ile Asn
165	170	175
Ala Ile Gly Pro Lys Glu Leu	Ala Val Ser Ser	Asn Arg Asn Leu Thr
180	185	190
Asn Ser Leu Ala Gly Gln Val	Pro Gly Leu Ile	Ala Val Gln Arg Ser
195	200	205
Gly Glu Pro Gly Tyr Asp Asn	Ser Glu Phe Trp	Ile Arg Gly Val Ser
210	215	220
Ser Phe Lys Gly Gly Thr Asn	Pro Leu Val	Leu Val Asp Gly Val Pro

225	230	235	240
Arg Asn Met Gln Asp Ile Glu Pro Asp Glu Ile Glu Ser Phe Thr Leu			
245	250	255	
Leu Lys Asp Ala Ala Ala Thr Ala Val Tyr Gly Ala Glu Gly Ala Asn			
260	265	270	
Gly Val Ile Leu Ile Thr Ser Lys Arg Gly Asn Ser Gln Lys Pro Lys			
275	280	285	
Ile Ser Leu Arg Ala Glu Ser Thr Leu Leu Thr Pro Thr Arg Leu Pro			
290	295	300	
Lys Phe Met Asn Ser Val Glu Thr Leu Asp Leu Tyr Asn Glu Ala Leu			
305	310	315	320
Asn Asn Glu Gly Thr Ala Ser Ile Arg Thr Ala Glu Glu Ile Ala Met			
325	330	335	
Tyr Gly Pro Gly Ala Asp Arg Asp Leu Tyr Pro Asp Thr Asp Trp Leu			
340	345	350	
Arg Glu Met Leu Arg Glu His Thr Tyr Asn Met Arg Tyr Thr Leu Asn			
355	360	365	
Val Arg Gly Gly Ser Glu Arg Ala Arg Tyr Phe Val Ser Gly Ala Phe			
370	375	380	
Tyr Gln Glu Asn Gly Ile Phe Lys Glu Gly Lys Lys Asn Glu Tyr Asp			
385	390	395	400
Asn Asn Ile Gly Leu Lys Arg Tyr Asn Leu Arg Ser Asn Ile Asp Phe			
405	410	415	
Asp Ala Thr Lys Thr Thr Leu Val Lys Val Asp Ile Ser Gly Gln Tyr			
420	425	430	
Leu Gln Thr Asn Tyr Pro Gly Thr Ser Thr Asn Thr Ile Phe Asn Ser			
435	440	445	
Met Cys Arg Thr Pro Ser Tyr Leu Met Pro Ala Glu Tyr Ser Asp Gly			
450	455	460	
Thr Ile Ala Gly His Pro Arg Pro Ser Gly Asn Arg Val Asn Pro Tyr			
465	470	475	480
Asn Leu Leu Met Asn Ser Gly Tyr Ala Lys Glu Trp Arg Thr Ser Ile			
485	490	495	
Gln Ser Lys Leu Glu Val Asp Gln Lys Leu Asp Phe Ile Thr Lys Gly			
500	505	510	
Leu Asn Trp Lys Gly Leu Ile Ser Phe Asp Ala Asp Met Lys Tyr Ile			
515	520	525	
Ala Lys Arg Thr Lys Thr Pro Thr Gln Tyr Leu Ala Thr Gly Arg Asp			
530	535	540	
Glu Asn Gly Gly Leu Gln Phe Lys Lys Val Val Glu Gly Ser Asp Val			
545	550	555	560
Leu Thr Glu Lys Leu Glu Asn Ser Ser Asn Lys Lys Ile Tyr Phe Glu			
565	570	575	
Thr Ser Phe Asn Tyr Asn Arg Thr Phe Ala Gln Lys His Asp Val Thr			
580	585	590	
Ala Met Val Leu Tyr Met Gln Lys Glu Thr Gln Tyr His Asn Asn Ala			
595	600	605	
Leu Pro Tyr Arg Lys Gln Gly Leu Val Gly Arg Ala Thr Tyr Gly Tyr			
610	615	620	
Asp Gly Arg Tyr Phe Ile Glu Gly Asn Phe Gly Tyr Thr Gly Ser Glu			
625	630	635	640
Thr Phe Ala Lys Gly Tyr Arg Phe Gly Phe Phe Pro Ala Met Gly Leu			
645	650	655	
Ala Trp Tyr Val Ser Asn Glu Pro Phe Tyr Pro Glu Val Leu Lys Lys			
660	665	670	
Val Val Asn Lys Leu Lys Phe Arg Phe Ser Ile Gly Arg Thr Gly Asn			
675	680	685	
Asp Asp Thr Gly Gly Asp Arg Phe Leu Tyr Arg Gly Thr Met Lys Gln			
690	695	700	

Asp Asn Gly Gly Tyr Asp Leu Gly Phe Ser Asp Thr Gly Gly Met Gly
 705 710 715 720
 Gly Ile Gly Asn Gly Ile Thr Glu Ala Arg Phe Glu Ala Pro Tyr Leu
 725 730 735
 Ser Trp Glu Ile Glu Glu Lys Lys Asn Tyr Gly Ile Asp Leu Gly Leu
 740 745 750
 Phe Asp Asn Arg Ile Asp Leu Gln Val Asp Tyr Phe Asn Asn Lys Arg
 755 760 765
 Lys Ser Ile Leu Leu Gln Arg Asn Thr Val Ser Asn Val Thr Gly Phe
 770 775 780
 Gln Gln Met Pro Trp Gln Asn Phe Gly Ile Val Lys Asn His Gly Val
 785 790 795 800
 Asp Ala Ser Leu Ile Leu Asn Gln Lys Ile Gly Gln Val Asn Leu Ser
 805 810 815
 Ala Arg Gly Asn Phe Thr Phe Ala Arg Asn Glu Ile Ile Glu Tyr Asp
 820 825 830
 Gln Val Pro Gln Val Tyr Pro Trp Leu Glu Lys Arg Gly Thr Arg Leu
 835 840 845
 Asn Ser Asn Lys Leu Tyr Ile Ala Glu Gly Leu Tyr Thr Tyr Asp Asp
 850 855 860
 Phe Ile Ile Asn Gly Glu Gly Leu Asn Arg Thr Tyr Glu Leu Lys Pro
 865 870 875 880
 Gly Val Val Ser Gly Leu Ser Ser Gly Val Arg Pro Gly Asp Ile Lys
 885 890 895
 Tyr Lys Asp Leu Asn Gly Asp Gly Lys Ile Gly Leu Arg His Val Arg
 900 905 910

<210> 9063

<211> 264

<212> PRT

<213> B.fragilis

<400> 9063

Tyr Ile Ile Leu Thr Glu Leu Phe Tyr Lys Lys Leu Val Ile Asn Thr
 1 5 10 15
 Thr Tyr Gln Leu Ile Thr Ser Leu Met Asn Thr Met Phe Phe Asn Ala
 20 25 30
 Val Ser Cys Phe Phe Val Cys Ala Gly Leu Ile Ile Ala Leu Ile Leu
 35 40 45
 Ala Ile Asn Val Ile Phe His Arg Gln Ser Met Lys Ile Met Asn Ile
 50 55 60
 Val Trp Val Leu Thr Gly Leu Trp Gly His Tyr Phe Ala Leu Phe Ala
 65 70 75 80
 Tyr Tyr Thr Phe Gly Val Arg Lys Asp Asn Met Val Ala Thr Val Pro
 85 90 95
 Met Glu Asn Met Lys Met Asp Met Lys Ile Ser Met Glu Met Asp Met
 100 105 110
 Ser Glu Val Arg Pro Gln Trp Gln Ser Ile Thr Leu Ser Ala Leu His
 115 120 125
 Cys Gly Ala Gly Cys Thr Leu Ala Asp Ile Ile Gly Glu Trp Phe Thr
 130 135 140
 Tyr Trp Val Pro Leu Gln Ile Gly Gly Ser Leu Ile Ala Gly Ser Trp
 145 150 155 160
 Ala Leu Asp Phe Val Leu Ala Leu Ile Leu Gly Val Phe Phe Gln Phe
 165 170 175
 Ile Ala Ile Arg Glu Met Glu Ala Ile Ser Phe Arg Glu Ala Val Ser
 180 185 190
 Arg Ala Phe Lys Ala Asp Phe Phe Ser Leu Leu Ala Trp Gln Val Gly
 195 200 205

Met Tyr Ser Trp Met Ala Val Ala Thr Phe Ile Leu Phe Lys Asp Glu
 210 215 220
 Ser Leu Glu Lys Thr Ser Trp Thr Phe Trp Phe Met Met Gln Ile Ala
 225 230 235 240
 Met Leu Leu Gly Phe Met Val Ser Tyr Pro Val Asn Ala Trp Leu Ile
 245 250 255
 Lys Ser Gly Ile Lys Lys Gly Met
 260

<210> 9064

<211> 392

<212> PRT

<213> B.fragilis

<400> 9064

Lys Ile Ile Ile Ile Phe Ala Ile Ile Ile Asn Ile Ile Ile Leu Val
 1 5 10 15
 Met Ala Val Ile Asn Pro Phe Val Val Gly Gly Tyr Val Ser Pro Arg
 20 25 30
 Tyr Phe Cys Asp Arg Val Ala Glu Thr Glu Asn Leu Ile Arg Asn Leu
 35 40 45
 Ile Asn Gly Arg Asn Val Ala Leu Val Ser Thr Arg Arg Met Gly Lys
 50 55 60
 Thr Gly Leu Ile Arg His Cys Phe Tyr Gln Pro Leu Ile Lys Glu Gly
 65 70 75 80
 Tyr Tyr Thr Phe Phe Ile Asp Ile Tyr Ala Thr Ser Ser Leu Lys Glu
 85 90 95
 Phe Val Phe Ala Leu Gly Lys Gly Ile Phe Glu Lys Leu Lys Pro Gln
 100 105 110
 Gly Asn Lys Phe Ile Asp Arg Phe Phe Ser Ile Ile Thr Ser Leu Arg
 115 120 125
 Ile Gly Phe Lys Leu Asp Ser Ile Thr Gly Glu Pro Ile Leu Glu Leu
 130 135 140
 Gly Leu Gly Asp Ile His Ala Pro Glu Thr Thr Leu Glu Glu Ile Phe
 145 150 155 160
 Ile Tyr Leu Glu Gln Ala Asp Lys Pro Cys Ile Val Ala Ile Asp Glu
 165 170 175
 Phe Gln Gln Ile Ser Ser Tyr Pro Glu Lys Asn Leu Glu Ala Ile Leu
 180 185 190
 Arg Thr Lys Val Gln His Cys Ser Asn Ser Asn Phe Val Phe Ala Gly
 195 200 205
 Ser Gln Arg His Ile Met Met Asn Ile Phe Asn Ser Pro Ser Arg Pro
 210 215 220
 Phe Tyr Gln Ser Val Ser Met Met His Leu Gly Ala Ile Pro Leu Glu
 225 230 235 240
 Val Tyr Lys Pro Phe Val Lys Gly Leu Phe Glu Glu Asn Gly Lys Lys
 245 250 255
 Val Thr Asp Gln Leu Val Glu Asn Val Tyr Thr Leu Phe Asp Gly His
 260 265 270
 Thr Trp Tyr Val Gln Leu Met Leu Asn Glu Leu Phe Ile Leu Thr Asp
 275 280 285
 Lys Lys Gly Ile Cys Asp Val Pro Met Ile Asn Leu Ala Leu Asn Asn
 290 295 300
 Ile Ile Ala Thr Gln Asp Phe Thr Phe Gln Glu Ile Phe Ser Arg Leu
 305 310 315 320
 Pro Glu Lys Gln Lys Glu Ile Met Ile Ala Ile Ala Lys Glu Gln Lys
 325 330 335
 Ala Lys Gly Val Thr Ser Ala Ala Phe Ile Lys Lys Tyr Arg Leu Thr
 340 345 350

Ser Ala Ser Ser Val Gln Ser Gly Leu Lys Gly Leu Leu Glu Lys Asp
 355 360 365
 Met Leu Thr Gln Glu Ser Gly Gly Tyr Gln Val Tyr Asp Arg Leu Phe
 370 375 380
 Asn Ile Trp Leu Arg Arg Asn Tyr
 385 390

<210> 9065

<211> 578

<212> PRT

<213> B.fragilis

<400> 9065

Ile Leu Tyr Ile Met Lys Val Tyr Gln Thr Asn Glu Ile Lys Asn Ile
 1 5 10 15
 Ala Leu Leu Gly Asn Asp Gly Ser Gly Lys Thr Thr Leu Thr Glu Ala
 20 25 30
 Leu Leu Tyr Glu Ser Gly Ile Ile Lys Arg Arg Gly Arg Ile Thr Ala
 35 40 45
 Lys Asn Thr Val Ser Asp Tyr Phe Pro Val Glu Gln Glu Tyr Gly Tyr
 50 55 60
 Ser Val Phe Ser Thr Ile Phe His Val Glu Trp Asn Gly Lys Lys Leu
 65 70 75 80
 Asn Ile Ile Asp Cys Pro Gly Ser Asp Asp Phe Val Gly Ala Ala Met
 85 90 95
 Thr Ala Leu Asn Val Thr Asp Thr Ala Ile Leu Leu Leu Asn Gly Gln
 100 105 110
 Tyr Gly Ala Glu Val Gly Thr Gln Asn His Phe Arg Tyr Thr Glu Lys
 115 120 125
 Leu Gly Lys Pro Val Ile Phe Leu Val Asn Gln Leu Asp Asn Glu Lys
 130 135 140
 Cys Asp Tyr Asp Met Val Leu Glu Gln Leu Lys Ser Ile Tyr Gly Pro
 145 150 155 160
 Lys Val Val Pro Val Gln Tyr Pro Leu Ala Thr Gly Pro Asn Phe Asn
 165 170 175
 Ser Leu Ile Asp Val Leu Leu Met Lys Lys Tyr Ser Trp Ala Pro Glu
 180 185 190
 Gly Gly Ala Pro Ile Ile Glu Glu Ile Pro Ala Glu Glu Lys Asp Lys
 195 200 205
 Ala Met Glu Leu His Lys Ala Leu Val Glu Ala Ala Ala Glu Asn Asp
 210 215 220
 Glu Gly Leu Met Glu Lys Phe Phe Glu Gln Asp Ser Leu Thr Glu Asp
 225 230 235 240
 Glu Met Arg Glu Gly Ile Arg Lys Gly Leu Ala Ala Arg Gly Met Phe
 245 250 255
 Pro Val Phe Cys Val Cys Ala Gly Lys Asp Met Gly Val Arg Arg Leu
 260 265 270
 Met Glu Phe Leu Gly Asn Val Val Pro Gly Val Ser Glu Met Pro Lys
 275 280 285
 Val His Asn Thr Arg Gly Glu Val Val Glu Pro Asp Pro Asn Gly Pro
 290 295 300
 Thr Ser Leu Tyr Phe Phe Lys Thr Gly Val Glu Pro His Ile Gly Asp
 305 310 315 320
 Val Gln Tyr Phe Lys Val Met Ser Gly Lys Val His Glu Gly Asp Asp
 325 330 335
 Phe Thr Asn Ala Asp Arg Gly Ser Lys Glu Arg Val Ala Gln Ile Tyr
 340 345 350
 Ala Cys Ala Gly Ala Asn Arg Ile Lys Val Glu Glu Met Val Ala Gly
 355 360 365

Asp Ile Gly Cys Thr Val Lys Leu Lys Asp Val His Thr Gly Asn Thr
 370 375 380
 Leu Asn Gly Lys Gly Ala Glu Asn Arg Phe Asn Phe Ile Lys Tyr Pro
 385 390 395 400
 Asn Ser Lys Tyr Ser Arg Ala Ile Lys Pro Val Asn Glu Ala Asp Thr
 405 410 415
 Glu Lys Met Met Ala Ile Leu Asn Arg Met Arg Glu Glu Asp Pro Thr
 420 425 430
 Trp Val Ile Glu Gln Ser Lys Glu Leu Lys Gln Thr Ile Val His Gly
 435 440 445
 Gln Gly Glu Phe His Leu Arg Thr Leu Lys Trp Arg Leu Glu Asn Asn
 450 455 460
 Glu Lys Leu Gln Val Lys Phe Glu Glu Pro Lys Ile Pro Tyr Arg Glu
 465 470 475 480
 Thr Ile Thr Lys Ala Ala Arg Ala Asp Tyr Arg His Lys Lys Gln Ser
 485 490 495
 Gly Gly Ala Gly Gln Phe Gly Glu Val His Leu Ile Val Glu Pro Tyr
 500 505 510
 Tyr Glu Gly Met Pro Val Pro Asp Met Tyr Lys Phe Gly Gly Gln Glu
 515 520 525
 Phe Lys Ile Asn Val Lys Gly Thr Glu Glu Val Pro Leu Glu Trp Gly
 530 535 540
 Gly Lys Leu Val Phe Val Asn Ser Ile Val Gly Gly Ser Ile Asp Ala
 545 550 555 560
 Arg Phe Leu Ala Gly His Leu Lys Gly Phe Met Ser Arg Met Asn Lys
 565 570 575
 Asp Leu

<210> 9066
 <211> 1175
 <212> PRT
 <213> B.fragilis

<400> 9066
 Tyr Pro His Ile Ile Gln Pro Leu Ile Arg Leu Asn Tyr Val Lys Thr
 1 5 10 15
 Asn Leu Leu Ile Lys Ser Tyr Lys Cys Met Asn Asn His Gly Ile Phe
 20 25 30
 Ser Pro Asp Arg Thr Lys Val Arg Thr Leu Leu Ser Ile Lys Ser Ile
 35 40 45
 Phe Leu Phe Leu Leu Phe Thr Phe Ala Phe Glu Met Ala Tyr Ala Ser
 50 55 60
 Ser Val Tyr Ser Gln Thr Lys Val Phe Thr Met Gln Ser Ala Glu Lys
 65 70 75 80
 Thr Val Leu Gln Val Phe Lys Glu Ile Glu Lys Asn Ser Glu Phe Ile
 85 90 95
 Ile Phe Tyr Arg Asp Gly Val Ile Asp Leu Asn Arg Lys Val Ser Val
 100 105 110
 Asn Val Val Asn Gln Ser Val Asp Lys Ile Leu Glu Gln Leu Leu Ala
 115 120 125
 His Thr Asp Asn Gly Phe Thr Ile Lys Asp Arg Gln Ile Ile Tyr
 130 135 140
 Lys Lys Glu Thr Ser Ala Thr Pro Ser Val Ser Gln Gln Lys Asn Lys
 145 150 155 160
 Ile Lys Val Thr Gly Val Val Thr Asp Ala Lys Gly Glu Ser Ile Ile
 165 170 175
 Gly Ala Asn Val Val Val Lys Gly Asn Pro Thr Ile Gly Ala Ile Thr
 180 185 190

Asn Met Glu Gly Arg Tyr Glu Val Met Leu Pro Ser Asp Asp Val Ile
 195 200 205
 Leu Leu Val Ser Tyr Leu Gly Tyr Asn Thr Glu Glu Ile Lys Val Lys
 210 215 220
 Gly Arg Arg Asn Ile Asn Val Val Leu His Glu Asp Ser Lys Ala Leu
 225 230 235 240
 Asp Glu Val Val Ile Val Gly Tyr Gly Lys Gln Lys Lys Glu Ser Val
 245 250 255
 Val Val Ser Met Ser Ser Ile Lys Pro Lys Asp Ile Val Val Pro Ser
 260 265 270
 Arg Ser Leu Asn Asn Ser Leu Ala Gly Gln Val Ala Gly Leu Ile Ala
 275 280 285
 Val Gln Arg Ser Gly Glu Pro Gly Tyr Asp Asn Ala Glu Phe Trp Ile
 290 295 300
 Arg Gly Val Ser Thr Phe Ala Gly Gly Thr Ser Pro Leu Val Leu Val
 305 310 315 320
 Asp Gly Val Pro Arg Asn Met Ser Asp Ile Glu Pro Asp Glu Ile Glu
 325 330 335
 Thr Phe Ser Val Leu Lys Asp Ala Ala Ala Thr Ala Ile Tyr Gly Ala
 340 345 350
 Glu Gly Ala Asn Gly Val Val Leu Val Thr Thr Lys Arg Gly Arg Val
 355 360 365
 Glu Lys Ala Lys Ile Ser Phe Lys Thr Glu His Thr Ile Ser Ser Pro
 370 375 380
 Thr Arg Leu Pro Glu Phe Val Gly Ser Ala Asp Tyr Leu Ser Leu Tyr
 385 390 395 400
 Asn Glu Ala Leu Arg Asn Asp Gly Glu Gly Pro Gln Phe Ser Asp Glu
 405 410 415
 Leu Ile Ala His Tyr Arg Asn Asn Asp Asp Pro Asp Leu Tyr Pro Asn
 420 425 430
 Thr Asn Trp Ile Asp Glu Leu Leu Arg Lys Asn Thr Phe Ser His Arg
 435 440 445
 Tyr Thr Leu Asn Val Arg Gly Gly Thr Glu Lys Ala Lys Tyr Phe Val
 450 455 460
 Ser Gly Ala Tyr Tyr Asn Glu Ser Gly Leu Phe Lys Asn Arg Pro Asn
 465 470 475 480
 Gly Ile Tyr Asp Thr Asn Ile Gly Ile Asp Arg Phe Asn Leu Arg Ser
 485 490 495
 Asn Ile Asp Met Ala Val Ser Ser Thr Thr Thr Val Gly Val Asp Leu
 500 505 510
 Ala Met Gln Tyr Leu Ile Asn Asn Tyr Pro Gly Thr Gly Thr Ser Thr
 515 520 525
 Ile Phe Arg Ser Met Leu Ile Thr Pro Pro Tyr Ala Phe Pro Ala Val
 530 535 540
 Tyr Ser Asp Gly Thr Val Ala Thr Tyr Ala Gln Glu Arg Asp Ala Asn
 545 550 555 560
 Met Arg Asn Pro Tyr Asn Leu Leu Met Asn Ser Gly Tyr Ala Lys Glu
 565 570 575
 Tyr Arg Thr Gly Ile Gln Ser Lys Val Asn Val Asn Gln Lys Leu Asp
 580 585 590
 Phe Ile Thr Lys Gly Leu Ser Ala Asn Leu Asn Val Ser Tyr Asp Tyr
 595 600 605
 Asp Ser Glu Met Ile Ile Arg Arg Glu Tyr Asn Pro Thr Arg Tyr His
 610 615 620
 Ala Thr Gly Arg Asp Glu Leu Gly Gln Leu Ile Phe Ser Thr Val Val
 625 630 635 640
 Ser Gly Asn Pro Asp Ile Gln Asp Pro Lys Asn Ser Ala Thr Ser Ala
 645 650 655
 Thr Lys Lys Ile Tyr Ile Asp Ala Ser Ile Asn Tyr Lys Arg Thr Phe

660	665	670
Gly Lys His Asp Val Gly Ala Met	Leu Leu Tyr Met Gln Lys Glu Thr	
675	680	685
Gln Gln His Asn Val Pro Leu Pro Phe Arg Lys Gln Gly Phe Val Gly		
690	695	700
Arg Ala Thr Tyr Gly Tyr Asp Gly Arg Tyr Phe Ile Glu Gly Asn Phe		
705	710	715
Gly Tyr Thr Gly Ser Glu Ala Phe Ala Glu Gly Asn Arg Phe Gly Phe		
725	730	735
Phe Pro Ala Ile Gly Ala Ala Tyr Tyr Leu Ser Asn Glu Ser Phe Tyr		
740	745	750
Pro Glu Ala Ile Lys Lys Val Val Asn Lys Leu Lys Leu Arg Ala Ser		
755	760	765
Val Gly Arg Thr Gly Asn Asp Lys Thr Gly Gln Glu Arg Phe Leu Tyr		
770	775	780
Arg Pro Thr Phe Thr Thr Asn Ala Gly Gly Phe Thr Gln Gly Ile Gly		
785	790	795
Asp Thr Gly Gly Thr Asn Gly Ile Gly Asn Gly Ile Val Glu Gly Arg		
805	810	815
Phe Ala Ala Pro Tyr Leu Ala Trp Glu Ile Glu Asp Lys Gln Asn Tyr		
820	825	830
Gly Phe Asp Leu Gly Leu Phe Asp Asn Arg Ile Asp Ile Ile Phe Asp		
835	840	845
Tyr Phe Arg Ser Glu Arg Arg Asp Ile Leu Leu Gln Arg Arg Thr Val		
850	855	860
Pro Gln Leu Gly Gly Leu Arg Gln Asp Pro Trp Gln Asn Phe Gly Lys		
865	870	875
Val Arg Asn Gln Gly Ile Asp Met Ser Met Asn Leu Asn Gln Gln Ile		
885	890	895
Gly Lys Leu Lys Leu Ser Ala Arg Gly Thr Phe Thr Phe Thr Arg Asn		
900	905	910
Lys Ile Leu Glu Tyr Asp Glu Leu Pro Gln Lys Tyr Gly Tyr Gln Ala		
915	920	925
Val Thr Gly Thr Arg Val Ser Glu Asn Thr Leu Tyr Ile Ala Asp Arg		
930	935	940
Leu Tyr Thr Glu Asp Asp Phe Ile Val Ser Thr Asn Ala Asn Gly Leu		
945	950	955
Lys Thr Tyr Lys Leu Arg Ser Glu Leu Pro Arg Pro Thr Leu Gly Gly		
965	970	975
Leu Ile Gly Pro Gly Asp Ile Lys Tyr Val Asp Val Asn Gly Asp Gly		
980	985	990
Val Ile Asp Ser Tyr Asp Gln Val Arg Gly Val Gly Asn Pro Ser Thr		
995	1000	1005
Pro Glu Ile Ile Tyr Gly Phe Gly Leu Asn Ala Glu Tyr Lys Gly Phe		
1010	1015	1020
Tyr Ala Ser Ile Phe Phe Gln Gly Ala Gly Asn Thr Ser Val Leu Leu		
1025	1030	1035
Gly Gly Ala Thr Ser Glu Gly Trp Tyr Pro Phe Ser Trp Gly Val Asp		
1045	1050	1055
Gln Ser Asn Tyr Arg Thr Phe Ala Leu Asp Arg Trp Thr Glu Asn Asn		
1060	1065	1070
Pro Ser Gln Asp Val Ile Ile Pro Arg Leu His Lys Asn Asn Ala Asn		
1075	1080	1085
Asn Ala Asn Asn Arg Val Ala Ser Thr Trp Trp Leu Arg Asn Gly Ser		
1090	1095	1100
Phe Leu Arg Leu Lys Asn Ile Glu Phe Gly Tyr Gln Leu Pro Lys Lys		
1105	1110	1115
Phe Met Asp Lys Ile Gly Phe Glu Ala Ala Arg Ile Tyr Ile Met Gly		
1125	1130	1135

Tyr Asn Leu Ala Val Trp Asp Asp Ile Lys Tyr Phe Asp Pro Glu Ala
 1140 1145 1150
 Gly Asn Ala Asn Ala Gly Leu Asn Tyr Pro Leu Pro Arg Thr Phe Thr
 1155 1160 1165
 Leu Gly Leu Asp Phe Thr Phe
 1170 1175

<210> 9067
<211> 66
<212> PRT
<213> B.fragilis

<400> 9067
 Lys Thr Ile Phe Met Pro Gly Asn Gly Ser Arg His Thr Gly Lys Ser
 1 5 10 15
 Ser Gly Ser Asn Arg Val Asn Glu Glu Asn Asn Gly Ser Lys Val Gly
 20 25 30
 Glu His Arg Leu Cys Lys Leu Trp Lys Pro Ala Leu Arg Glu His Thr
 35 40 45
 Val Ser Ser Ile Lys Asn Arg Glu Lys Pro Met Leu Leu Pro Ile Thr
 50 55 60
 Val Leu
 65

<210> 9068
<211> 144
<212> PRT
<213> B.fragilis

<400> 9068
 Thr Asp Ile Phe Phe Leu Ile Gly Phe His Ser Arg His Cys Arg Leu
 1 5 10 15
 Cys Ile Ala Ile Val Pro Leu Cys Ser Ala Leu Arg Cys Phe Cys Asp
 20 25 30
 Cys Lys Val Lys His Ile Ile Leu Thr Gly Gly Thr Asp Thr Ala Arg
 35 40 45
 Ser Ile Ala Lys Ala Ile Pro Ala Thr Pro Leu Ser Ala Glu Thr Gly
 50 55 60
 Gly Lys Asn Val Ile Ile Leu Thr Ala Ser Gly Asp Arg Asp His Thr
 65 70 75 80
 Ile Met Asn Ile Val Ile Ser Val Phe Gly Asn Ala Gly Gln Lys Cys
 85 90 95
 Ser Ala Cys Ser Leu Leu Val Glu Arg Ser Val Tyr Glu Asp Lys Asn
 100 105 110
 Phe Gln Lys Lys Leu Ile Asp Val Ala Ser Ser Met Lys Ala Gly Ser
 115 120 125
 Val Trp Asn Pro Gly Asn Val Val Gly Pro Met Ile Thr Asn Lys Lys
 130 135 140

<210> 9069
<211> 245
<212> PRT
<213> B.fragilis

<400> 9069
 Val Tyr Ile Met Phe Gln Glu Ala Ile Ala Gln Tyr Leu Lys Gln Asn
 1 5 10 15
 His Tyr Glu Ser Ile Gln Leu Lys Ser Val Leu Phe Asp Met Asp Gly
 20 25 30

Val Leu Phe Asp Ser Met Pro Tyr His Ala Glu Ala Trp His Lys Thr
 35 40 45
 Met Lys Ala His Gly Leu Asn Leu Ser Arg Glu Glu Ala Tyr Met His
 50 55 60
 Glu Gly Arg Thr Gly Ala Gly Thr Ile Asn Ile Val Cys Gln Arg Gln
 65 70 75 80
 Leu Gly Arg Asp Ala Thr Gln Glu Glu Ile Glu Ser Ile Tyr Leu Glu
 85 90 95
 Lys Ser Ile Glu Phe Asn Lys His Pro Gln Ala Glu Arg Met Pro Gly
 100 105 110
 Ala Trp Glu Leu Leu Gln Lys Ile Lys Ala Glu Gly Ile Ile Pro Thr
 115 120 125
 Val Val Thr Gly Ser Gly Gln Ala Ser Leu Leu Asp Arg Leu Glu His
 130 135 140
 Asn Phe Pro Gly Met Phe Arg Gln Glu Leu Met Val Thr Ala Phe Asp
 145 150 155 160
 Val Lys Tyr Gly Lys Pro Asn Pro Glu Pro Tyr Leu Met Ala Leu Glu
 165 170 175
 Lys Gly Gly Leu Lys Pro Asn Glu Ala Ile Val Ile Glu Asn Ala Pro
 180 185 190
 Leu Gly Val Glu Ala Gly His Lys Ala Gly Ile Phe Thr Ile Ala Val
 195 200 205
 Asn Thr Gly Pro Leu Asn Gly Glu Ile Leu Leu Asn Ala Gly Ala Asp
 210 215 220
 Leu Leu Phe Pro Ser Met Gln Ala Leu Cys Glu Ser Trp Glu Lys Leu
 225 230 235 240
 Val Arg Leu Leu His
 245

<210> 9070

<211> 485

<212> PRT

<213> B.fragilis

<400> 9070

Ser Val Ser Ile Tyr Phe Val Ala Leu Leu Arg Ile Ile Phe Lys Ile
 1 5 10 15
 Arg Lys Asn Met Lys Ser Tyr Lys Leu Leu Leu Ala Phe Thr Leu Phe
 20 25 30
 Leu Ala Phe Ala Phe Asn Met Lys Ala Gln Tyr Val His Glu Arg Ser
 35 40 45
 Asp Gln Tyr Thr Pro Pro Glu Asp Ser Leu Val Ile Gln Lys Leu His
 50 55 60
 His Trp Gln Asp Gln Lys Phe Gly Met Leu Ile His Trp Gly Leu Tyr
 65 70 75 80
 Ser Val Ala Gly Ile Val Glu Ser Trp Ser Ile Cys Ser Glu Glu Ala
 85 90 95
 Asp Trp Ile Pro Arg Asp Ser Thr Met Ala Tyr Glu Asp Tyr Lys Lys
 100 105 110
 Trp Tyr Trp Gly Leu Lys Asp Ser Phe Asn Pro Thr Arg Phe Asp Pro
 115 120 125
 Glu Gln Trp Ala Gln Ala Ala Lys Ser Ala Gly Met Arg Tyr Ala Ile
 130 135 140
 Phe Thr Thr Lys His His Asp Gly Phe Asn Met Phe Asn Thr Ala Phe
 145 150 155 160
 Ser Asp Phe Ser Ile Ala Lys Gly Pro Phe Gln Thr Asp Pro Arg Ala
 165 170 175
 Asp Val Ala Lys Tyr Val Phe Glu Ala Phe Arg Asn Asn Asp Leu Met
 180 185 190

Val Gly Ala Tyr Phe Ser Lys Pro Asp Trp His Ser Glu Tyr Tyr Trp
 195 200 205
 Trp Pro Arg Tyr Ala Thr Pro Arg Arg Thr Gln Asn Tyr Asn Ile Asp
 210 215 220
 Lys Asn Pro Trp Arg Trp Asn Gln Phe Lys Glu Phe Thr Tyr Asn Gln
 225 230 235 240
 Ile Gly Glu Leu Met His Asn Tyr Gly Pro Ile Asp Ile Leu Trp Leu
 245 250 255
 Asp Gly Gly Trp Val Asn Asn Pro Gly Thr Lys Ser Val Leu Asp Met
 260 265 270
 Asp Arg Ile Ser Gln Met Ala Arg Gln Ala Gln Pro Gly Ile Leu Phe
 275 280 285
 Val Asp Arg Thr Ile His Gly Lys Tyr Glu Asn Tyr Gln Thr Pro Glu
 290 295 300
 Gln Gln Ile Pro Asp Lys Gln Leu Pro Tyr Pro Trp Glu Thr Cys Met
 305 310 315 320
 Thr Leu Gly Val Asp Trp Gly Tyr Thr Pro His Ala Val Phe Lys Ser
 325 330 335
 Pro Val Thr Val Ile Ala Lys Leu Met Glu Ile Val Ala Lys Gly Gly
 340 345 350
 Ser Leu Leu Leu Gly Val Gly Pro Thr Pro Glu Gly Ile Leu Gln Asp
 355 360 365
 Glu Ile Val Ser Arg Leu Gln Thr Ile Gly Gly Trp Met Lys Lys Asn
 370 375 380
 Gly Thr Ala Ile Tyr Asn Thr Val Thr Pro Gln Tyr Tyr Ser Glu
 385 390 395 400
 Gly Ile Trp Phe Thr Met Asn Lys Asp Gly Lys Thr Met Tyr Ala Leu
 405 410 415
 Tyr Ser Asn Pro Glu Thr Glu Lys Phe Pro Asp Tyr Ile Glu Trp Glu
 420 425 430
 Asn Asn Ile Pro Ala Lys Arg Ser Ala Ile Tyr Cys Leu Gln Asn Gly
 435 440 445
 Lys Lys Val Lys Trp Glu Ile Lys Asn Asn Arg Val Arg Val Tyr Leu
 450 455 460
 Pro Gln Asn Leu Lys Thr Glu Val Asn Ala Leu Ala Phe Ser Phe Thr
 465 470 475 480
 Arg Gln Ala Ile Gln
 485

<210> 9071

<211> 171

<212> PRT

<213> B.fragilis

<400> 9071

Tyr Asp Cys Met Lys Lys Leu Phe Phe Pro Leu Leu Ser Leu Cys Leu
 1 5 10 15
 Leu Thr Thr Ala Cys Lys Asp Ser Val Pro Ser Pro Thr Ile Glu Met
 20 25 30
 Gln Gly Leu Tyr Val Asn Asp Gly Glu Met Asp Tyr Thr Arg Gln Met
 35 40 45
 Glu Ala Leu Pro Pro Leu Lys Val Asp Asp Glu Leu Glu Ile Ser Leu
 50 55 60
 Lys Leu Asp Gly Asn Gly Glu Glu Leu Asn Thr Phe Leu Val Lys Glu
 65 70 75 80
 Glu Thr Pro Gly Ser Lys Glu Thr Ala Val Glu Ile Asp Phe Asn Asp
 85 90 95
 Leu Pro Glu Glu Thr Leu Ser Asp Asp Lys Glu Phe Thr Asp Lys Asp
 100 105 110

Asn Gly Lys Leu Gly Phe Lys Asp Gly Val Ser Gln Thr Gln Ile Gly
 115 120 125
 Ile Arg Ala Lys Val Gln Gln Val Thr Glu Asp Gly Val Lys Leu Lys
 130 135 140
 Phe Tyr Leu Phe Ser Lys Pro Val Asn Cys Glu Gly Ala Lys Tyr Glu
 145 150 155 160
 Leu Glu Ile Lys Thr Ser Asp Lys Gln Asp Asp
 165 170

<210> 9072

<211> 1285

<212> PRT

<213> B.fragilis

<400> 9072

Tyr Asp Arg Met Gly Leu Arg Thr Ile Gln Asp Trp Met Val Lys Arg
 1 5 10 15
 Gln Leu Ser Gly Ile Pro Gly Ile Val Glu Ile Asn Ser Phe Gly Gly
 20 25 30
 Tyr Leu Lys Gln Tyr Glu Val Ala Val Asp Pro Asn Ala Leu Phe Ser
 35 40 45
 Leu Asn Ile Thr Ile Gly Lys Val Phe Glu Ala Leu Ser Lys Asn Asn
 50 55 60
 Gln Asn Thr Gly Gly Ser Tyr Ile Glu Lys Ala Lys Asn Ala Tyr Tyr
 65 70 75 80
 Ile Arg Ser Glu Gly Met Ile Ser Arg Thr Lys Asp Ile Glu Gln Ile
 85 90 95
 Val Val Ala Asn Arg Asn Gly Ile Pro Val His Ile Ser Asp Val Gly
 100 105 110
 Ile Val Arg Phe Gly Ala Pro Lys Arg Phe Gly Ala Met Thr Lys Asp
 115 120 125
 Gly Lys Gly Glu Cys Val Gly Gly Ile Ala Met Met Leu Lys Gly Ala
 130 135 140
 Asn Ala Asn Val Val Thr Gln Glu Leu Glu Lys Arg Val Glu Lys Ile
 145 150 155 160
 Gln Lys Leu Leu Pro Glu Gly Val Ser Ile Glu Pro Tyr Leu Asn Arg
 165 170 175
 Ser Glu Leu Val Asn Arg Asn Ile Ser Thr Val Val His Asn Leu Ile
 180 185 190
 Glu Gly Ala Ile Ile Val Phe Val Val Leu Ile Ile Phe Leu Gly Asn
 195 200 205
 Ile Arg Ala Gly Leu Ile Val Ala Ser Val Ile Pro Leu Ala Met Leu
 210 215 220
 Phe Ala Phe Ile Leu Met Arg Ile Phe Gly Val Thr Ala Asn Leu Met
 225 230 235 240
 Ser Leu Gly Ala Ile Asp Phe Gly Ile Val Val Asp Gly Ser Ile Val
 245 250 255
 Ile Val Glu Gly Ile Leu Ala His Leu Tyr Asn Asn Lys Leu Asn Gly
 260 265 270
 Arg Thr Leu Ser Gly Thr Glu Met Asp Glu Glu Val Glu Lys Gly Ala
 275 280 285
 Ser Gly Val Val Arg Ser Ala Thr Phe Ala Val Phe Ile Ile Leu Ile
 290 295 300
 Val Phe Phe Pro Ile Leu Thr Leu Ser Gly Ile Glu Gly Lys Tyr Phe
 305 310 315 320
 Thr Pro Met Ala Lys Thr Leu Val Phe Cys Ile Ile Gly Ala Leu Leu
 325 330 335
 Leu Ser Leu Thr Tyr Val Pro Met Met Ala Ser Leu Phe Leu Lys His
 340 345 350

Thr Ile Met Val Lys Pro Thr Phe Ala Asp Arg Phe Phe Glu Lys Leu
 355 360 365
 Asn Val Ile Tyr Gln Arg Cys Leu His Phe Cys Leu Arg Phe Lys Trp
 370 375 380
 Gln Thr Val Thr Val Ala Phe Ala Thr Leu Ile Gly Ser Phe Leu Leu
 385 390 395 400
 Phe Gly Arg Leu Gly Ala Glu Phe Ile Pro Thr Leu Asp Glu Gly Asp
 405 410 415
 Phe Ala Met Gln Met Thr Leu Pro Ala Gly Ser Ser Leu Ser Glu Ser
 420 425 430
 Ile Glu Val Ser Asn Gln Ala Glu Lys Leu Leu Met Asp Arg Phe Pro
 435 440 445
 Glu Ile Lys His Val Val Ala Lys Ile Gly Thr Ala Glu Val Pro Thr
 450 455 460
 Asp Pro Met Ala Val Glu Asp Ala Asp Val Met Ile Val Met Lys Pro
 465 470 475 480
 Phe Lys Glu Trp Thr Ser Ala Ser Ser Arg Ala Glu Met Val Glu Lys
 485 490 495
 Met Lys Glu Ala Leu Gln Pro Leu Glu Asn Arg Ala Glu Phe Asn Phe
 500 505 510
 Ser Gln Pro Ile Gln Leu Arg Phe Asn Glu Leu Met Thr Gly Ala Lys
 515 520 525
 Ala Asp Ile Ala Val Lys Leu Tyr Gly Glu Asp Thr His Glu Leu Tyr
 530 535 540
 Ala Lys Ala Lys Glu Ala Ala Arg Phe Val Glu Gln Val Ser Gly Ala
 545 550 555 560
 Ser Asp Val Ile Val Glu Gln Thr Met Gly Leu Pro Gln Leu Val Val
 565 570 575
 Lys Tyr Asn Arg Gly Lys Ile Ala Arg Tyr Gly Ile Asn Ile Glu Glu
 580 585 590
 Leu Asn Thr Met Ile Arg Thr Ala Tyr Ala Gly Glu Val Ser Gly Val
 595 600 605
 Val Phe Glu Asn Glu Arg Arg Phe Asp Leu Val Val Arg Leu Asp Gln
 610 615 620
 Glu Lys Val Ala Asp Leu Ser Leu Asp Lys Leu Phe Ile Arg Thr Ser
 625 630 635 640
 Glu Gly Ile Gln Ile Pro Val Ser Glu Val Ala Ser Ile Asp Leu Val
 645 650 655
 Asn Gly Pro Leu Gln Ile Asn Arg Asp Ala Thr Lys Arg Arg Ile Val
 660 665 670
 Ile Gly Val Asn Val Arg Asp Ala Asp Ile Gln Gln Val Val Ser Glu
 675 680 685
 Ile Gln Gln Ile Leu Asp Lys Asn Ile Lys Leu Gln Pro Gly Tyr Tyr
 690 695 700
 Phe Glu Tyr Gly Gly Gln Phe Glu Asn Leu Gln Asn Ala Ile Arg Thr
 705 710 715 720
 Leu Thr Ile Val Ile Pro Val Ala Leu Met Leu Ile Leu Leu Ile Leu
 725 730 735
 Phe Phe Ala Phe Lys Asn Val Thr Tyr Thr Leu Met Val Phe Ser Thr
 740 745 750
 Val Pro Leu Ser Leu Ile Gly Gly Ile Leu Ala Leu Trp Leu Arg Gly
 755 760 765
 Leu Pro Phe Ser Ile Ser Ala Gly Val Gly Phe Ile Ala Leu Phe Gly
 770 775 780
 Val Ala Val Leu Asn Gly Ile Leu Met Ile Asn His Phe Asn Asp Leu
 785 790 795 800
 Arg Lys Gln Asn Lys Tyr Ala Met Thr Thr Asn Gln Ile Ile Lys Arg
 805 810 815
 Gly Thr Pro His Leu Leu Arg Pro Val Phe Leu Thr Gly Leu Val Ala

820	825	830
Ser Leu Gly Phe Val Pro Met Ala Ile Ala Thr Ser Ala Gly Ala Glu		
835	840	845
Val Gln Arg Pro Leu Ala Thr Val Val Ile Gly Gly Leu Ile Leu Ser		
850	855	860
Thr Ile Leu Thr Leu Ile Ile Leu Pro Val Phe Tyr Lys Ile Val Asn		
865	870	875
Ala Ala Ser Ala Gly Trp Lys Gln Pro Lys Arg Arg Leu His Leu Phe		
885	890	895
Ile Leu Leu Pro Ala Leu Leu Ser Ala Thr Ala Thr Ala Gln Ala		
900	905	910
Pro Gln Thr Val Ser Leu Glu Gln Ala Ile Glu Ile Ala Lys Gln Asn		
915	920	925
His Pro Arg Leu Lys Ile Ala Thr Thr Ala Ile Arg Gln Ala Gln Ala		
930	935	940
Gly Arg Gly Glu Ile Val Glu Ala Thr Pro Thr Thr Phe Asn Tyr Ser		
945	950	955
Trp Gly Gln Leu Asn Gly Glu Asn Lys Lys Asp Lys Glu Met Ala Phe		
965	970	975
Glu Gln Ser Leu Gly Ser Leu Leu Thr Pro Phe Tyr Lys Asn Val Leu		
980	985	990
Ile Asn Arg Gln Val Gln Thr Ser Thr Tyr Tyr Leu Gln Met Val Glu		
995	1000	1005
Lys Glu Ile Thr Ala Glu Val Lys Arg Ala Trp Ala Tyr Tyr Gln Tyr		
1010	1015	1020
Ala Ser Gly Met Ser Ser Leu Tyr His Asp Gln Asp Arg Met Ala Ala		
1025	1030	1035
Glu Leu Arg Arg Ile Gly Glu Leu Arg Tyr Glu Gln Gly Glu Ile Thr		
1045	1050	1055
Leu Leu Glu Lys Asn Met Met Thr Thr Leu Ala Ala Asp Leu His Asn		
1060	1065	1070
Arg Leu Phe Gln Ala Leu Glu Glu Lys Lys Val Ala Leu Ala Arg Phe		
1075	1080	1085
Gln Trp Ser Cys Tyr Ala Asp Asp Pro Ile Thr Pro Lys Asp Thr Ile		
1090	1095	1100
Met Thr Leu Phe Pro Thr Asp Cys Glu Gln Arg Ser Thr Ser Glu Ala		
1105	1110	1115
His Leu Gly Phe Phe Asn Ser Gln Ala Ser Glu Ala Arg Ala Ile Leu		
1125	1130	1135
Asn Val Glu Arg Ser Arg Phe Phe Pro Glu Leu Ser Ile Gly Tyr Ser		
1140	1145	1150
Arg Gln Asp Ile Leu Pro Leu Lys Asn Leu Asn Ala Trp Met Val Gly		
1155	1160	1165
Val Ser Phe Pro Ile Tyr Phe Leu Pro Gln Lys Ser Arg Ile Lys Gln		
1170	1175	1180
Ala Lys Leu Ala Val Ser Ala Ala Gln Ile Gln Ala Glu Ala Asn Ile		
1185	1190	1195
Arg Glu Leu Asn Asn Lys Ile Thr Glu Leu Ser Ala Ala Leu Arg Arg		
1205	1210	1215
Tyr Glu Glu Ser Leu Arg Phe Tyr Thr Ser Ser Ala Leu Lys Glu Ala		
1220	1225	1230
Asp Glu Leu Val Lys Thr Ala Asn Leu Gln Leu Gln His Ser Glu Thr		
1235	1240	1245
Gly Ile Ala Glu Phe Ile Gln Ser Val Ser Ala Ala Arg Glu Ile Arg		
1250	1255	1260
Lys Gly Tyr Ile Glu Thr Ile Tyr Gln Tyr Asn Ile Ala Ser Leu Glu		
1265	1270	1275
Tyr Glu Leu Tyr Gln		
1285		

<210> 9073
<211> 892
<212> PRT
<213> B.fragilis

<400> 9073

Tyr	Arg	Leu	Ile	Asn	Tyr	Leu	Val	Phe	Ile	Leu	Ile	Tyr	Gln	Lys	Thr
1								5		10				15	
Phe	Ile	Ala	Leu	Gln	Ala	Arg	Leu	Leu	Met	Ile	Ser	Lys	Leu	Leu	His
									20	25				30	
Ile	Tyr	Leu	Leu	Ile	Lys	Lys	Ser	Lys	Thr	His	Cys	Ile	Val	Glu	Lys
					35		40				45				
Gln	Ile	Tyr	Ser	Tyr	Glu	Glu	Ala	Phe	Glu	Glu	Ser	Leu	Arg	Tyr	Phe
							50	55			60				
Gln	Gly	Asp	Glu	Leu	Ala	Ala	Arg	Val	Trp	Val	Asn	Lys	Tyr	Ala	Val
					65		70		75		80				
Lys	Asp	Ser	Phe	Gly	Asn	Ile	Tyr	Glu	Lys	Ser	Pro	Lys	Asp	Met	His
					85			90			95				
Trp	Arg	Leu	Ala	Asn	Glu	Val	Ala	Arg	Ile	Glu	Ala	Lys	Tyr	Pro	Asn
					100			105			110				
Ala	Leu	Ser	Ser	Glu	Gln	Leu	Phe	Glu	Leu	Phe	Asp	His	Phe	Lys	Tyr
					115		120				125				
Ile	Val	Pro	Gln	Gly	Ser	Pro	Met	Thr	Gly	Ile	Gly	Asn	Asp	Tyr	Gln
					130		135			140					
Val	Ala	Ser	Leu	Ser	Asn	Cys	Phe	Val	Ile	Gly	Ile	Asp	Gly	Ser	Ala
					145		150		155			160			
Asp	Ser	Tyr	Gly	Ala	Ile	Ile	Lys	Ile	Asp	Glu	Glu	Gln	Val	Gln	Leu
					165			170			175				
Met	Lys	Arg	Arg	Gly	Gly	Val	Gly	His	Asp	Leu	Ser	His	Ile	Arg	Pro
					180			185			190				
Lys	Gly	Ser	Pro	Val	Lys	Asn	Ser	Ala	Leu	Thr	Ser	Thr	Gly	Leu	Val
					195		200			205					
Pro	Phe	Met	Glu	Arg	Tyr	Ser	Asn	Ser	Thr	Arg	Glu	Val	Ala	Gln	Asp
					210		215			220					
Gly	Arg	Arg	Gly	Ala	Leu	Met	Leu	Ser	Val	Ser	Ile	Lys	His	Pro	Asp
					225		230		235			240			
Ser	Glu	Ala	Phe	Ile	Asp	Ala	Lys	Met	Thr	Glu	Gly	Lys	Val	Thr	Gly
					245			250			255				
Ala	Asn	Val	Ser	Val	Lys	Leu	Asp	Asp	Ala	Phe	Met	Ser	Ala	Ala	Val
					260			265			270				
Glu	Gly	Arg	Lys	Tyr	Thr	Gln	Gln	Tyr	Pro	Ile	Asp	Ser	Asp	His	Pro
					275		280			285					
Thr	Thr	Val	Lys	Glu	Ile	Glu	Ala	Ser	Asn	Leu	Trp	Lys	Lys	Ile	Val
					290		295			300					
His	Asn	Ala	Trp	Lys	Ser	Ala	Glu	Pro	Gly	Val	Leu	Phe	Trp	Asp	Thr
					305		310		315			320			
Ile	Ile	Arg	Glu	Ser	Val	Pro	Asp	Cys	Tyr	Ala	Asp	Leu	Gly	Tyr	Lys
					325			330			335				
Thr	Val	Ser	Thr	Asn	Pro	Cys	Gly	Glu	Ile	Pro	Leu	Cys	Pro	Tyr	Asp
					340			345			350				
Ser	Cys	Arg	Leu	Leu	Ala	Ile	Asn	Leu	Tyr	Ser	Tyr	Val	Val	Asn	Pro
					355			360			365				
Phe	Thr	Lys	Asp	Ala	Tyr	Phe	Asp	Phe	Asp	Leu	Phe	His	Lys	His	Val
					370			375			380				
Ala	Leu	Ala	Gln	Arg	Ile	Met	Asp	Asp	Ile	Ile	Asp	Leu	Glu	Leu	Glu
					385			390			395			400	
Lys	Ile	Glu	Arg	Ile	Ile	Glu	Lys	Ile	Asp	Gln	Asp	Pro	Glu	Asn	Glu
					405				410			415			

Glu Val Lys His Thr Glu Arg Gly Leu Trp Glu Lys Ile Tyr Lys Lys
 420 425 430
 Ser Gly Gln Gly Arg Arg Thr Gly Val Gly Ile Thr Ala Glu Gly Asp
 435 440 445
 Met Leu Ala Ala Leu Gly Met Arg Tyr Gly Thr Glu Glu Ala Thr Glu
 450 455 460
 Phe Ser Glu Lys Val His Lys Ala Val Ala Leu Gly Ala Tyr Arg Ser
 465 470 475 480
 Ser Val Asp Met Ala Lys Glu Arg Gly Ala Phe Asp Val Tyr Asp Ser
 485 490 495
 Glu Arg Glu Lys Asn Asn Pro Phe Ile Asn Arg Leu Arg Glu Ala Asp
 500 505 510
 Pro Ala Leu Tyr Glu Asp Met Lys Lys Tyr Gly Arg Arg Asn Ile Ala
 515 520 525
 Cys Leu Thr Ile Ala Pro Thr Gly Thr Ser Leu Met Thr Gln Thr
 530 535 540
 Thr Ser Gly Ile Glu Pro Val Phe Leu Pro Val Tyr Lys Arg Arg Arg
 545 550 555 560
 Lys Val Asn Pro Asn Asp Thr Asn Val Arg Val Asp Phe Val Asp Glu
 565 570 575
 Thr Gly Asp Ala Phe Glu Glu Tyr Ile Val Phe His His Lys Phe Val
 580 585 590
 Thr Trp Met Glu Ala Asn Gly Tyr Asp Pro Ala Lys Arg Tyr Thr Gln
 595 600 605
 Glu Glu Ile Asp Glu Leu Val Ala Lys Ser Pro Tyr Tyr Lys Ala Thr
 610 615 620
 Ser Asn Asp Val Asp Trp Leu Met Lys Val Arg Met Gln Gly Lys Ile
 625 630 635 640
 Gln Lys Trp Val Asp His Ser Ile Ser Val Thr Ile Asn Leu Pro Asn
 645 650 655
 Asp Val Asp Glu Leu Val Asn Arg Leu Tyr Val Glu Ala Trp Lys
 660 665 670
 Ser Gly Cys Lys Gly Cys Thr Val Tyr Arg Asp Gly Ser Arg Ser Gly
 675 680 685
 Val Leu Ile Ser Ala Lys Ser Asp Lys Asp Lys Lys Glu Glu Leu Pro
 690 695 700
 Pro Cys Lys Pro Pro Thr Val Val Glu Val Arg Pro Thr Val Leu Glu
 705 710 715 720
 Ala Asp Val Val Arg Phe Gln Asn Asn Lys Glu Lys Trp Val Ala Leu
 725 730 735
 Val Gly Leu Leu Asp Gly Arg Pro Tyr Glu Ile Phe Thr Gly Leu Gln
 740 745 750
 Asp Asp Asp Glu Gly Ile Ile Ile Pro Lys Ser Val Asn Thr Gly Arg
 755 760 765
 Ile Ile Lys Asn Val Asp Glu Asn Gly Asn Lys Arg Tyr Asp Phe Gln
 770 775 780
 Phe Glu Asn Lys Arg Gly Tyr Lys Met Thr Ile Glu Gly Leu Ser Glu
 785 790 795 800
 Lys Phe Asn Lys Glu Tyr Trp Asn Tyr Ala Lys Leu Ile Ser Gly Val
 805 810 815
 Leu Arg Trp Arg Met Pro Ile Glu Gln Val Ile Lys Leu Val Gly Ser
 820 825 830
 Leu Gln Leu Asp Ser Glu Asn Ile Asn Thr Trp Lys Asn Gly Val Glu
 835 840 845
 Arg Ala Leu Lys Lys Tyr Val Gln Asp Gly Thr Glu Ala Lys Gly Lys
 850 855 860
 Lys Cys Pro Asn Cys Gly Asn Glu Thr Leu Val Tyr Gln Glu Gly Cys
 865 870 875 880
 Leu Ile Cys Thr Thr Cys Gly Ala Ser Arg Cys Gly

<210> 9074

<211> 905

<212> PRT

<213> B.fragilis

<400> 9074

Leu Asn Leu Ile Tyr Met Ile Val Thr Phe His Ile Glu Tyr Arg Thr
 1 5 10 15
 Ser Trp Gly Glu Glu Val Arg Ile Leu Gly Ser Val Pro Glu Leu Gly
 20 25 30
 Lys Asn Asn Pro Glu Gln Ala Val Ala Leu Thr Thr Val Asp Gly Ile
 35 40 45
 His Trp Ser Asn Glu Ile Ser Ile Gln Leu Pro Ala Glu Gly Val Val
 50 55 60
 Glu Tyr Ser Tyr His Ile Tyr Arg Asp Gly Lys Ala Ile Arg Thr Glu
 65 70 75 80
 Trp Asn Ser Phe Pro Arg Arg Ile Tyr Leu Pro Ala Asp Val Lys Lys
 85 90 95
 Ser Leu Arg Ile Asn Asp Cys Trp Lys Asn Leu Pro Glu Gln Gln Tyr
 100 105 110
 Phe Tyr Ser Ser Ala Phe Thr Glu Ala Leu Leu Ala His Arg Glu Arg
 115 120 125
 Ser Ala Ile Pro Lys Ser Tyr Lys Lys Gly Leu Met Ile Lys Ala Tyr
 130 135 140
 Ala Pro Arg Ile Asn Ser Lys Tyr Cys Leu Ala Ile Cys Gly Asn Gln
 145 150 155 160
 Lys Ala Leu Gly Asn Trp Asp Pro Asp Lys Ala Trp Pro Met Ser Asp
 165 170 175
 Ala Asn Phe Pro Glu Trp Gln Ala Glu Leu Asp Ala Ser Lys Leu Glu
 180 185 190
 Phe Pro Leu Glu Tyr Lys Phe Val Leu Tyr Asn Lys Glu Glu Lys Arg
 195 200 205
 Ala Glu Ala Trp Glu Asn Asn Pro Asn Arg Tyr Leu Ala Ala Pro Glu
 210 215 220
 Ile Lys Ala Asn Glu Thr Leu Val Ile Ala Asp Arg Tyr Ala Tyr Phe
 225 230 235 240
 Asn Ile Pro Ser Trp Lys Gly Ala Gly Val Ala Val Pro Val Phe Ser
 245 250 255
 Leu Lys Ser Glu Lys Ser Phe Gly Val Gly Asp Phe Gly Asp Leu Lys
 260 265 270
 Arg Met Val Asp Trp Ala Val Ser Thr Asn Gln Lys Val Val Gln Ile
 275 280 285
 Leu Pro Ile Asn Asp Thr Thr Met Thr His Thr Trp Thr Asp Ser Tyr
 290 295 300
 Pro Tyr Asn Ser Ile Ser Ile Tyr Ala Phe His Pro Met Tyr Ser Asp
 305 310 315 320
 Leu Lys Gln Met Gly Asn Leu Lys Asp Lys Glu Thr Ala Ala Thr Phe
 325 330 335
 Asn Arg Lys Gln Lys Glu Leu Asn Ala Leu Ser Ala Ile Asp Tyr Glu
 340 345 350
 Ala Val Asn Arg Val Lys Trp Glu Tyr Phe His Gln Ile Phe Lys Gln
 355 360 365
 Glu Gly Glu Lys Val Leu Ala Ser Lys Ala Phe Arg Ser Phe Phe Glu
 370 375 380
 Ala Asn Lys Asp Trp Leu Gln Pro Tyr Ala Ala Phe Ser Tyr Leu Arg
 385 390 395 400
 Asp Leu Tyr His Thr Pro Asn Phe Arg Glu Trp Pro Gln Tyr Ser Glu

405	410	415
Tyr Asn Ala Gln Glu Ile Glu Glu Leu Cys Arg Pro Asp Thr Ala Asp		
420	425	430
Tyr Ala His Ile Ala Ile Tyr Phe Tyr Ile Gln Phe Asn Leu His Leu		
435	440	445
Gln Leu Leu Glu Ala Thr Thr Tyr Ala Arg Glu His Gly Val Val Leu		
450	455	460
Lys Gly Asp Ile Pro Ile Gly Ile Ser Arg Asn Ser Val Glu Ala Trp		
465	470	475
480		
Thr Glu Pro Tyr Tyr Phe Asn Leu Asn Gly Gln Ala Gly Ala Pro Pro		
485	490	495
Asp Asp Phe Ser Val Asn Gly Gln Asn Trp Gly Phe Pro Thr Tyr Asn		
500	505	510
Trp Asp Val Met Glu Asn Asp Gly Tyr Lys Trp Trp Met Lys Arg Phe		
515	520	525
Gln Lys Met Ala Glu Tyr Phe Asp Ala Tyr Arg Ile Asp His Ile Leu		
530	535	540
Gly Phe Phe Arg Ile Trp Glu Ile Pro Met Asn Ala Val His Gly Leu		
545	550	555
560		
Leu Gly Gln Phe Val Pro Ala Leu Pro Met Ser Arg Glu Glu Ile Glu		
565	570	575
Ser Tyr Gly Leu Ser Phe Arg Glu Glu Phe Leu Arg Pro Tyr Ile His		
580	585	590
Glu Tyr Phe Leu Gly Gln Val Phe Gly Pro His Thr Asp Tyr Val Lys		
595	600	605
Gln Thr Phe Ile Glu Pro Thr Glu Thr Tyr Glu Val Tyr Arg Met Arg		
610	615	620
Pro Glu Phe Asp Thr Gln Arg Lys Val Glu Ala Phe Phe Ala Gly Lys		
625	630	635
640		
Asn Asp Glu Asp Ser Ile Trp Val Arg Asp Gly Leu Tyr Ala Leu Ile		
645	650	655
Ser Asp Val Leu Phe Val Pro Asp Arg Lys Asp Pro Asn Leu Tyr His		
660	665	670
Pro Arg Ile Gly Val Gln His Asp Phe Ile Tyr Arg Ala Leu Asn Asp		
675	680	685
Trp Glu Lys Thr Ala Phe Asn Arg Leu Tyr Asp Gln Tyr Tyr Tyr His		
690	695	700
Arg His Asn Asp Phe Trp Gln Gln Ala Met Lys Lys Leu Pro Gln		
705	710	715
720		
Leu Thr Gln Ser Thr Arg Met Leu Val Cys Gly Glu Asp Leu Gly Met		
725	730	735
Ile Pro Asp Cys Val Ala Trp Val Met Asn Asp Leu Arg Ile Leu Ser		
740	745	750
Leu Glu Ile Gln Arg Met Pro Lys Asn Pro Ala Glu Glu Phe Gly Arg		
755	760	765
Leu Asn Glu Tyr Pro Tyr Arg Ser Val Cys Thr Phe Ser Thr His Asp		
770	775	780
Met Ser Thr Leu Arg Gly Trp Trp Glu Glu Asp Tyr Gln Gln Thr Gln		
785	790	795
800		
Arg Tyr Tyr Asn Gln Met Leu Gly His Tyr Gly Thr Ala Pro Ala Ile		
805	810	815
Ala Thr Pro Glu Leu Cys Glu Glu Val Val Arg Asn His Leu Tyr Ser		
820	825	830
Asn Ser Ile Leu Cys Ile Leu Ser Leu Gln Asp Trp Leu Ser Met Asp		
835	840	845
Gly Lys Trp Arg Asn Pro Asn Val Gln Glu Glu Arg Ile Asn Ile Pro		
850	855	860
Ala Asn Pro Arg His Tyr Trp Arg Tyr Arg Met His Leu Thr Leu Glu		
865	870	880

Gln Leu Met Lys Ala Glu Ser Leu Asn Glu Lys Ile Arg Glu Leu Val
 885 890 895
 Lys Gln Thr Gly Arg Asn Pro Glu Lys
 900 905

<210> 9075

<211> 149

<212> PRT

<213> B.fragilis

<400> 9075

Asn Gln Thr Ile Asp Thr Thr Arg Ile Ile Ala Leu Ile Ile Leu
 1 5 10 15
 Phe Leu Pro Glu Asp Thr Ser Ile Ile Lys Leu Met Thr Thr Gln His
 20 25 30
 Tyr Ile Phe Leu Glu Asn Val Arg Phe Tyr Ser Tyr His Gly Val Ala
 35 40 45
 Pro Gln Glu Thr Ala Ile Gly Asn Glu Phe Ile Ile Asn Leu Arg Leu
 50 55 60
 Lys Thr Asp Phe Gly Lys Ala Thr Glu Thr Asp Glu Val Glu Asp Thr
 65 70 75 80
 Val Ser Tyr Ala Asp Ile Tyr Ala Ala Leu Lys Glu Glu Met Glu Leu
 85 90 95
 Pro Ser Lys Leu Leu Glu His Val Cys Gly Arg Ile Val Lys Arg Leu
 100 105 110
 Phe Arg Asp Phe Arg Lys Ile Arg Glu Ile Glu Ile Lys Leu Ala Lys
 115 120 125
 Arg Asn Pro Pro Met Gly Ala Asp Ile Asp Ser Ala Gly Val Glu Met
 130 135 140
 His Cys Thr Arg Asp
 145

<210> 9076

<211> 719

<212> PRT

<213> B.fragilis

<400> 9076

Glu Lys Gln Met Ile Val Cys Ile Ala Glu Lys Pro Ser Val Ala Arg
 1 5 10 15
 Asp Ile Ala Asp Ile Leu Gly Ala Arg Glu Arg Lys Glu Gly Tyr Ile
 20 25 30
 Glu Gly Asn Gly Tyr Gln Val Thr Trp Thr Phe Gly His Leu Cys Thr
 35 40 45
 Leu Lys Glu Pro His Glu Tyr Thr Pro Gly Trp Lys Ser Trp Ser Leu
 50 55 60
 Gly Ser Leu Pro Met Ile Pro Pro Arg Phe Gly Ile Lys Leu Ile Glu
 65 70 75 80
 Asn Pro Thr Tyr Glu Lys Gln Phe His Ile Ile Glu Gly Leu Met Gln
 85 90 95
 Lys Ala Asp Glu Ile Ile Asn Cys Gly Asp Ala Gly Gln Glu Gly Glu
 100 105 110
 Leu Ile Gln Arg Trp Val Met Gln Lys Ala Gly Ala Arg Cys Pro Val
 115 120 125
 Lys Arg Leu Trp Ile Ser Ser Leu Thr Glu Glu Ala Ile Lys Glu Gly
 130 135 140
 Phe Ala Lys Leu Lys Asp Gln Lys Asp Phe Gln Pro Leu Tyr Glu Ala
 145 150 155 160
 Gly Met Ser Arg Ala Ile Gly Asp Trp Leu Leu Gly Met Asn Ala Thr

165	170	175
Arg Leu Tyr Thr Val Lys Tyr Gly Gln Asn Arg Gln Val	Leu Ser Ile	
180	185	190
Gly Arg Val Gln Thr Pro Thr Leu Ala Leu Ile Val Asn Arg Gln Leu		
195	200	205
Asp Ile Glu Asn Phe Gln Pro Lys Gln Tyr Trp Glu Leu Lys Thr Met		
210	215	220
Tyr Arg Asp Thr Thr Phe Ser Ala Leu Ile Arg Lys Ser Asp Glu Glu		
225	230	240
Leu Ala Ala Glu Glu Lys Ser Gly Gly Lys Ala Lys Lys Thr Glu		
245	250	255
Asn Arg Gly Ile Asp Pro Ile Ala Asn Arg Glu Glu Gly Met Ala Leu		
260	265	270
Val Glu Arg Ile Lys Asp Leu Pro Phe Val Val Thr Ser Val Ala Lys		
275	280	285
Lys Asp Gly Lys Glu Tyr Ala Pro Arg Leu Phe Asp Leu Thr Ser Leu		
290	295	300
Gln Val Glu Cys Asn Lys Lys Phe Ala Tyr Ser Ala Asp Glu Thr Leu		
305	310	320
Lys Leu Ile Gln Ser Leu Tyr Glu Lys Lys Val Thr Thr Tyr Pro Arg		
325	330	335
Val Asp Thr Thr Phe Leu Ser Asp Asp Ile Tyr Pro Lys Cys Pro Asn		
340	345	350
Ile Leu Lys Gly Leu Lys Asp Tyr Glu Val Leu Thr Thr Pro Leu Ala		
355	360	365
Gly Ala Ser Leu Pro Lys Ser Lys Lys Val Phe Asp Ser Ser Lys Val		
370	375	380
Thr Asp His His Ala Ile Ile Pro Thr Gly Val His Pro Gln Asn Leu		
385	390	400
Thr Asp Met Glu Arg Arg Val Phe Asp Leu Ile Ala Arg Arg Phe Ile		
405	410	415
Ala Val Phe Tyr Pro Asp Cys Lys Val Ser Thr Thr Val Thr Met Gly		
420	425	430
Glu Val Asp Ser Ile Glu Phe Lys Val Thr Gly Lys Gln Ile Leu Glu		
435	440	445
Pro Gly Trp Arg Val Val Phe Ala Lys Asp Val Lys Asp Leu Asn Glu		
450	455	460
Glu Lys Glu Gly Glu Asp Glu Asn Val Leu Pro Ala Phe Val Lys Gly		
465	470	480
Glu Ser Gly Pro His Ile Pro Asp Leu Asn Glu Lys Trp Thr Gln Pro		
485	490	495
Pro Lys Pro Tyr Thr Glu Ala Thr Leu Leu Arg Ala Met Glu Thr Ala		
500	505	510
Gly Lys Leu Val Asp Asn Asp Glu Leu Arg Asp Ala Leu Lys Glu Asn		
515	520	525
Gly Ile Gly Arg Pro Ser Thr Arg Ala Ala Ile Ile Glu Thr Leu Phe		
530	535	540
Lys Arg Asn Tyr Ile Arg Lys Glu Lys Lys Asn Leu Ile Ala Thr Pro		
545	550	560
Thr Gly Val Glu Leu Ile Gln Leu Ile His Glu Glu Leu Leu Lys Ser		
565	570	575
Ala Glu Leu Thr Gly Ile Trp Glu Lys Lys Leu Arg Glu Ile Glu Lys		
580	585	590
Lys Thr Tyr Asp Ala Arg Gln Phe Leu Glu Glu Leu Lys Gln Met Val		
595	600	605
Ser Glu Ile Val Asn Ser Val Leu Ser Asp Asn Thr Asn Arg Arg Ile		
610	615	620
Thr Ile Gln Glu Ala Thr Ala Val Glu Glu Lys Lys Lys Lys Glu		
625	630	640

Pro Lys Arg Arg Glu Arg Lys Ser Ala Thr Pro Lys Glu Lys Lys Gly
 645 650 655
 Lys Ser Glu Pro Ala Thr Val Asp Val Ser Ser Thr Gly Gln Ser Val
 660 665 670
 Arg Ala Asp Ala Leu Lys Glu Thr Asp Ser Leu Val Gly Lys Leu Cys
 675 680 685
 Pro Val Cys Gly Lys Gly Val Ile Ile Lys Gly Lys Thr Val Tyr Gly
 690 695 700
 Cys Ser Glu Trp Lys Asn Gly Cys Thr Tyr Arg Lys Ala Phe Glu
 705 710 715

<210> 9077

<211> 385

<212> PRT

<213> B.fragilis

<400> 9077

Asn Ala Lys Ile Thr Gln Thr Ile Met Ala Gly Ile Tyr Ile His Val
 1 5 10 15
 Pro Phe Cys Lys Thr Arg Cys Ile Tyr Cys Asp Phe Tyr Ser Thr Thr
 20 25 30
 Arg Ser Glu Trp Lys Gly Arg Tyr Ile Glu Ala Leu Cys Lys Glu Leu
 35 40 45
 Glu Met Arg Tyr Thr Tyr Leu Lys Gly Lys Pro Ile Glu Thr Leu Tyr
 50 55 60
 Phe Gly Gly Gly Thr Pro Ser Gln Leu Asp Glu Lys Asp Phe Arg Lys
 65 70 75 80
 Val Phe Asp Thr Val Arg Arg Val Tyr Gly Met Glu Asn Cys His Glu
 85 90 95
 Ile Thr Leu Glu Ala Asn Pro Asp Asp Leu Cys Pro Glu Tyr Leu Gln
 100 105 110
 Met Leu Ser Glu Leu Pro Phe Asn Arg Ile Ser Met Gly Ile Gln Thr
 115 120 125
 Phe Asp Asp Thr Thr Leu Lys Leu Leu Lys Arg Arg His Asn Ala Ala
 130 135 140
 Gln Ala Ile Arg Ala Val Glu Leu Cys Arg Ala His Gly Phe Leu Asn
 145 150 155 160
 Ile Ser Ile Asp Leu Ile Tyr Gly Leu Pro Gly Glu Thr Thr Glu Arg
 165 170 175
 Trp Glu Lys Asp Leu Gln Gln Ala Ile Ala Leu Asp Val Glu His Ile
 180 185 190
 Ser Ala Tyr His Leu Ile Tyr Glu Glu Gly Thr Pro Ile Tyr Lys Met
 195 200 205
 Leu Gln Lys His Gln Val Glu Glu Val Asp Glu Asp Ser Ser Val Arg
 210 215 220
 Phe Phe Thr Leu Leu Ile Asp Arg Leu Arg Glu Ala Gly Tyr Glu His
 225 230 235 240
 Tyr Glu Ile Ser Asn Phe Cys Lys Pro Gly Met Tyr Ser Arg His Asn
 245 250 255
 Thr Ser Tyr Trp Gln Gly Val Ser Tyr Leu Gly Cys Gly Pro Ser Ala
 260 265 270
 His Ser Phe Asp Gly Gln Thr Arg Glu Trp Asn Cys Ser Ser Ile Glu
 275 280 285
 Lys Tyr Met Ser Gly Ile Glu Ser Gly Gln Arg Asp Phe Glu Arg Glu
 290 295 300
 Glu Arg Asp Leu Ala Thr Arg Tyr Asn Glu Phe Ile Ile Thr Ser Val
 305 310 315 320
 Arg Thr Gln Trp Gly Ile Ser Leu Glu Arg Leu Ser Asn Asp Tyr Gly
 325 330 335

Thr Gln Leu Glu Gln Tyr Cys Leu Lys Met Ala Arg Pro Ser Leu Glu
 340 345 350
 Asn Gly Lys Leu Glu Ile Tyr Glu Gly Ala Leu Arg Leu Thr Arg Glu
 355 360 365
 Gly Ile Phe Ile Ser Asp Ser Ile Met Ser Asp Leu Leu Trp Val Glu
 370 375 380
 Asn
 385

<210> 9078
 <211> 155
 <212> PRT
 <213> B.fragilis

<400> 9078
 His Asp Glu Ile Arg Arg Lys Ser Met Glu Ile Ile Leu Lys Glu Asp
 1 5 10 15
 Val Val Asn Leu Gly Tyr Lys Asn Asp Ile Val Thr Val Lys Ser Gly
 20 25 30
 Tyr Gly Arg Asn Tyr Leu Ile Pro Thr Gly Lys Ala Val Ile Ala Ser
 35 40 45
 Pro Ser Ala Lys Lys Met Leu Ala Glu Glu Leu Lys Gln Arg Ala His
 50 55 60
 Lys Leu Glu Lys Ile Lys Lys Asp Ala Glu Ala Leu Ala Ala Lys Leu
 65 70 75 80
 Glu Gly Val Ser Leu Thr Ile Ala Thr Lys Val Ser Ser Thr Gly Thr
 85 90 95
 Ile Phe Gly Ser Val Gly Asn Ile Gln Ile Ala Glu Glu Leu Ala Lys
 100 105 110
 Leu Gly His Glu Ile Asp Arg Lys Ile Ile Val Val Lys Asp Ala Val
 115 120 125
 Lys Glu Val Gly Ala Tyr Lys Ala Ile Val Lys Leu His Lys Glu Val
 130 135 140
 Ser Val Glu Ile Pro Phe Glu Val Val Ala Glu
 145 150 155

<210> 9079
 <211> 334
 <212> PRT
 <213> B.fragilis

<400> 9079
 Phe Ile Glu Met Lys Leu Pro Gly Lys Ile Ala Ile Met Gly Gly Gly
 1 5 10 15
 Ser Trp Ala Thr Ala Ile Ala Lys Met Cys Leu Ala Gln Glu Glu Ser
 20 25 30
 Ile Asn Trp Tyr Met Arg Arg Asp Asp Arg Ile Ala Asp Phe Lys Arg
 35 40 45
 Leu Gly His Asn Pro Ala Tyr Leu Thr Gly Val Lys Phe Asp Met Lys
 50 55 60
 Arg Ile Asn Phe Ser Ser Asn Ile Asn Asp Val Val Lys Glu Ser Asp
 65 70 75 80
 Thr Leu Ile Phe Val Thr Pro Ser Pro Tyr Leu Lys Ala His Leu Lys
 85 90 95
 Lys Leu Lys Thr Arg Ile Arg Asp Lys Phe Ile Ile Thr Ala Ile Lys
 100 105 110
 Gly Ile Val Pro Asp Asp Asn Leu Ile Val Ser Glu Tyr Phe Asn Lys
 115 120 125
 Glu Tyr Gly Val Pro Pro Glu Asn Ile Ala Val Leu Ala Gly Pro Cys

130	135	140
His Ala Glu Glu Val Ala	Leu Glu Arg Leu Ser	Tyr Leu Thr Ile Ala
145	150	155
Cys Pro Asp Lys Asp Lys Ala Arg Val	Phe Ala Arg Arg Leu	Gly Ser
165	170	175
Ser Phe Ile Lys Thr Ser Val Ser Asp Asp Val	Ile Gly Ile Glu Tyr	
180	185	190
Ser Ser Val Leu Lys Asn Val	Tyr Ala Ile Ala Ala	Gly Ile Cys Ser
195	200	205
Gly Leu Lys Tyr Gly Asp Asn	Phe Gln Ala Val Leu	Ile Ser Asn Ala
210	215	220
Ile Gln Glu Met Asn Arg	Phe Leu Asn Thr Val	His Pro Ile Asn Arg
225	230	235
Asn Val Asp Glu Ser Val	Tyr Leu Gly Asp Leu	Leu Val Thr Gly Tyr
245	250	255
Ser Asn Phe Ser Arg Asn Arg	Thr Phe Gly Thr Met	Ile Gly Lys Gly
260	265	270
Tyr Ser Val Lys Ser Ala Gln	Ile Glu Met Glu Met	Ile Ala Glu Gly
275	280	285
Tyr Tyr Gly Thr Lys Cys Ile	Lys Glu Ile Asn Lys	His His His Val
290	295	300
Asn Met Pro Ile Leu Asp Ala Val	Tyr Asn Ile Leu	Tyr Glu Arg Ile
305	310	315
Ser Pro Met Ile Glu Ile Lys Leu	Leu Thr Asp Ser	Phe Arg
325	330	

<210> 9080

<211> 128

<212> PRT

<213> B.fragilis

<400> 9080

Phe Ser Gly Ile Thr Ile Lys Lys Val	Gly Ile Met Lys Arg	Leu Gly	
1	5	10	15
Leu Thr Leu Val Ala Ala Leu Cys	Leu Val Ala Thr Thr	Phe Ala Ala	
20	25	30	
Gly Asn Gln Pro Thr Val Ala Lys	Trp Glu Gly Asn Ile	Asn Val Asn	
35	40	45	
Lys Leu Gly Lys Tyr Leu Asn Leu	Ser Ser Val Gln Ala	Glu Glu Val	
50	55	60	
Ala Asn Ile Cys Asn Tyr	Phe Asp Glu Gln Met	Gly Arg Ala Thr Thr	
65	70	75	80
Ala Lys Lys Asn Lys Asp	Thr Met Val Arg Asn Ala	Val Tyr Gly Asn	
85	90	95	
Leu Lys Leu Met Lys Lys Thr	Leu Thr Asp Ala Gln	Tyr Thr Lys Tyr	
100	105	110	
Thr Thr Ile Leu Asn Met Thr	Leu Lys Asn Lys Gly	Ile Glu Val Lys	
115	120	125	

<210> 9081

<211> 261

<212> PRT

<213> B.fragilis

<400> 9081

Asp Arg Met Ile Ile Leu Phe Ile Ser	Leu Gln Lys Lys Asp	Met Met	
1	5	10	15
Asp Thr Val Lys Asn Arg Arg Thr	Ile Arg Lys Tyr Gln	Gln Lys Asp	
20	25	30	

Ile Thr Pro Asp Leu Leu Asn Asp Leu Leu Glu Thr Ser Phe Arg Ala
 35 40 45
 Ser Thr Met Gly Gly Met Gln Leu Tyr Ser Val Val Val Thr Arg Asp
 50 55 60
 Ala Glu Lys Lys Glu Ile Leu Ser Pro Ala His Phe Asn Gln Pro Met
 65 70 75 80
 Val Lys Glu Ala Pro Val Val Leu Thr Phe Cys Ala Asp Phe Arg Arg
 85 90 95
 Phe Cys Lys Tyr Cys Gln Glu Arg Asn Ala Glu Pro Gly Tyr Gly Asn
 100 105 110
 Leu Met Ser Phe Leu Asn Ala Ala Met Asp Thr Leu Leu Val Ala Gln
 115 120 125
 Thr Phe Cys Thr Leu Ala Glu Glu Ala Gly Leu Gly Ile Cys Tyr Leu
 130 135 140
 Gly Thr Thr Thr Tyr Asn Pro Gln Met Ile Ile Asp Ala Leu His Leu
 145 150 155 160
 Pro Glu Leu Val Phe Pro Ile Thr Thr Val Thr Val Gly Tyr Pro Ala
 165 170 175
 Glu Ser Pro Lys Gln Val Asp Arg Leu Pro Ile Glu Gly Ile Ile His
 180 185 190
 Glu Glu Ser Tyr His Asp Tyr Thr Ala Glu Asp Ile Asn Arg Leu Tyr
 195 200 205
 Ala Tyr Lys Glu Ser Leu Pro Glu Asn Lys Leu Phe Ile Glu Glu Asn
 210 215 220
 Gln Lys Glu Thr Leu Ala Gln Val Phe Thr Asp Val Arg Tyr Thr Lys
 225 230 235 240
 Lys Asp Asn Glu Phe Met Ser Glu Asn Leu Leu Lys Val Leu Arg Arg
 245 250 255
 Gln Gly Phe Met Asp
 260

<210> 9082

<211> 173

<212> PRT

<213> B.fragilis

<400> 9082

Ser Phe Phe Val Leu Arg Asp Arg Ile Cys Gln Arg Arg His Leu Ser
 1 5 10 15
 Leu Gln Ser Cys Leu Asn Asn Asn Phe Met Ile Glu Gln Phe Asn Phe
 20 25 30
 Asp Ile Arg Leu Ile Phe Ala Ile Leu Asn Gly Lys Val Ser Ala Ala
 35 40 45
 Ile Asn Arg Lys Leu Tyr Arg Asn Phe Arg Gln Asn Gly Leu Glu Ile
 50 55 60
 Ser Pro Glu Gln Trp Thr Val Leu Ile Phe Leu Trp Glu Lys Asp Gly
 65 70 75 80
 Val Thr Gln Gln Glu Leu Cys Asn Ala Thr Phe Lys Asp Lys Pro Ser
 85 90 95
 Met Thr Arg Leu Ile Asp Asn Met Glu Arg Gln His Leu Val Val Arg
 100 105 110
 Ile Ser Asp Lys Lys Asp Arg Arg Thr Asn Leu Ile His Leu Thr Arg
 115 120 125
 Thr Gly Lys Glu Leu Glu Glu Lys Ala Arg Ile Ile Ala Asn Arg Thr
 130 135 140
 Leu Lys Glu Ala Leu His Gly Ile Thr Val Glu Glu Leu Ser Val Ser
 145 150 155 160
 Gln Glu Val Leu Arg Lys Ile Phe Phe Asn Thr Lys Asp
 165 170

<210> 9083
<211> 226
<212> PRT
<213> B.fragilis

<400> 9083

Asn	Thr	Phe	Val	Arg	Asp	Ile	Leu	Lys	Ile	Gln	Lys	Leu	Lys	Lys	Leu
1						5				10					15
Tyr	Trp	Tyr	Phe	Phe	Ser	Leu	Leu	Ala	Phe	Gly	Tyr	Met	Phe	Gln	Ala
						20			25					30	
Cys	Asp	Asn	Ser	Lys	Thr	Tyr	Ala	Glu	Met	Leu	Asp	Glu	Glu	Lys	Asp
				35				40				45			
Ala	Val	Asn	Ala	Phe	Ile	Lys	Lys	His	Asn	Ile	Gln	Thr	Ile	Ser	Glu
					50		55			60					
Ser	Asp	Phe	Glu	Ala	Asn	Gly	Tyr	Lys	Thr	Asp	Thr	Thr	Lys	Asn	Glu
				65		70			75			80			
Tyr	Val	Ala	Phe	Ser	Asn	Gly	Val	Tyr	Met	Gln	Ile	Val	Asp	Lys	Gly
					85			90			95				
Ile	Val	Thr	Asp	Lys	Pro	Glu	Asn	Asp	Ser	Ile	Lys	Asn	Asn	Ile	
					100			105			110				
Val	Ala	Val	Arg	Phe	Val	Glu	His	Asp	Ile	Lys	Ala	Asn	Asp	Thr	Thr
					115		120			125					
Cys	Phe	Asn	Val	Val	Leu	Pro	Gly	Phe	Glu	Asn	Tyr	Pro	Asn	Tyr	Tyr
				130		135				140					
Thr	Tyr	Pro	Asp	Val	Phe	Arg	Tyr	Val	Asp	Asn	Gly	Thr	Ser	Val	Ala
				145		150			155			160			
Gly	Val	Phe	Thr	Glu	Gly	Ser	Met	Tyr	Ala	Lys	Tyr	Gly	Thr	Thr	Asp
					165			170			175				
Val	Pro	Pro	Gly	Trp	Leu	Leu	Ala	Leu	Lys	Tyr	Val	Thr	Asn	Tyr	Ala
					180			185			190				
His	Val	Arg	Met	Ile	Val	Pro	Ser	Lys	Met	Gly	His	Gln	Ser	Ala	Asn
				195			200			205					
Gln	Tyr	Val	Asn	Pro	Tyr	Phe	Tyr	Asp	Ile	Arg	Lys	Phe	Gln	Lys	Ala
				210			215			220					
Leu	Asn														
	225														

<210> 9084
<211> 154
<212> PRT
<213> B.fragilis

<400> 9084

Arg	Val	His	Val	Pro	His	Glu	Gln	Gly	Pro	Leu	Thr	Val	Ser	Tyr	Ala
1					5				10			15			
Arg	Asp	Val	Arg	Val	Ile	Val	Tyr	Glu	Glu	Lys	Met	His	Arg	Val	Asp
					20			25			30				
Ser	Asn	Glu	Ile	Ser	Phe	Met	Leu	Ala	Glu	Arg	Asn	Ala	Phe	Ser	Glu
					35			40			45				
Ala	Phe	Lys	Asn	Ala	Gly	Pro	Lys	Ile	Leu	Glu	Pro	Ile	Tyr	Asp	Val
					50		55			60					
Glu	Val	Phe	Val	Pro	Ser	Asp	Lys	Met	Gly	Asp	Val	Met	Gly	Asp	Leu
					65		70		75			80			
Gln	Gly	Arg	Arg	Ala	Met	Ile	Met	Gly	Met	Ser	Ser	Glu	Asn	Gly	Tyr
					85			90			95				
Glu	Lys	Leu	Val	Ala	Lys	Val	Pro	Leu	Lys	Glu	Met	Ser	Ser	Tyr	Ser
					100			105			110				
Thr	Ala	Leu	Ser	Ser	Leu	Thr	Gly	Gly	Arg	Ala	Ser	Phe	Ile	Met	Lys

115	120	125
Phe Ala Ser Tyr Glu Leu Val Pro Ser Asp Val Gln Asp Lys Leu Ile		
130	135	140
Lys Asp Phe Glu Ser Lys Gln Thr Glu Glu		
145	150	

<210> 9085

<211> 527

<212> PRT

<213> B.fragilis

<400> 9085

Leu Gly Ser Val Asn Phe Val Ala Met Lys Lys Ser Thr Ile Trp Ile		
1	5	10
Leu Gly Ile Ile Met Gly Leu Ser Phe Leu Ser Leu Leu Tyr Leu Gln		
20	25	30
Val Ser Tyr Ile Glu Glu Met Val Lys Met Arg Lys Glu Gln Phe Asn		
35	40	45
Thr Ser Val Arg Asn Ala Leu Phe Gln Val Ser Lys Asp Val Glu Tyr		
50	55	60
Asp Glu Thr Gln Arg Trp Leu Leu Glu Asp Ile Thr Glu Ala Glu Arg		
65	70	75
Arg Ala Leu Ala Gln Ser Ser Ser Thr Thr Glu Gln Lys Asn Gly Leu		
85	90	95
Ile Gln Gln Ser Glu Arg Tyr Arg Phe Lys Ser Pro Asp Gly Thr Leu		
100	105	110
Tyr Ser Glu Phe Glu Leu Lys Met Ile Thr Thr Glu Pro Ser Lys Val		
115	120	125
Pro Lys Ala Met Ile Ser Glu Arg His Gly Arg Asn Thr Ile Pro Gln		
130	135	140
Thr Ser Arg Ser Leu Thr Asp Ala Ile Lys Asn Arg Tyr Met Tyr Gln		
145	150	155
Arg Phe Leu Leu Asp Asp Val Ala Leu Arg Met Ile Tyr Lys Ala Ser		
165	170	175
Asp Lys Ser Ile Gly Glu Arg Val Asn Phe Lys Lys Leu Asp Asn Tyr		
180	185	190
Leu Lys Ser Asn Phe Ile Asn Asn Gly Val Glu Leu Leu Tyr His Phe		
195	200	205
Ser Val Ile Asp Lys Asp Gly Arg Glu Val Tyr Arg Cys Ser Asp Tyr		
210	215	220
Glu Asp Gly Gly Ser Glu Asp Ser Tyr Thr Gln Pro Leu Phe Gln Asn		
225	230	235
Asp Pro Pro Ala Lys Met Ser Ile Val Lys Val His Phe Pro Gly Lys		
245	250	255
Lys Asp Tyr Ile Phe Asp Ser Val Ser Phe Met Ile Pro Ser Met Ile		
260	265	270
Phe Thr Ile Val Leu Leu Ile Thr Phe Ile Phe Thr Ile Tyr Ile Val		
275	280	285
Phe Arg Gln Lys Lys Leu Thr Glu Met Lys Asn Asp Phe Ile Asn Asn		
290	295	300
Met Thr His Glu Phe Lys Thr Pro Ile Ser Thr Ile Ser Leu Ala Ala		
305	310	315
Gln Met Leu Lys Asp Pro Ala Val Gly Lys Ser Pro Gln Met Phe Gln		
325	330	335
His Ile Ser Gly Val Ile Asn Asp Glu Thr Lys Arg Leu Arg Phe Gln		
340	345	350
Val Glu Lys Val Leu Gln Met Ser Met Phe Asp Arg Gln Lys Ala Thr		
355	360	365
Leu Lys Met Lys Glu Leu Asp Ala Asn Glu Leu Ile Thr Gly Val Ile		

370	375	380													
Asn	Thr	Phe	Ala	Leu	Lys	Val	Glu	Arg	Tyr	Asn	Gly	Lys	Ile	Thr	Ser
385					390						395				400
Asn	Leu	Glu	Ala	Thr	Asn	Pro	Val	Ile	Phe	Ala	Asp	Glu	Met	His	Ile
								405				410			415
Thr	Asn	Val	Ile	Phe	Asn	Leu	Met	Asp	Asn	Ala	Val	Lys	Tyr	Lys	Lys
								420			425			430	
Pro	Glu	Glu	Asp	Leu	Val	Leu	Asn	Val	Arg	Thr	Trp	Asn	Glu	Pro	Gly
								435			440			445	
Lys	Leu	Met	Ile	Ser	Ile	Gln	Asp	Asn	Gly	Ile	Gly	Ile	Lys	Lys	Glu
								450			455			460	
Asn	Leu	Lys	Lys	Val	Phe	Asp	Lys	Phe	Tyr	Arg	Val	His	Thr	Gly	Asn
465								470			475			480	
Leu	His	Asp	Val	Lys	Gly	Phe	Gly	Leu	Gly	Leu	Ala	Tyr	Val	Lys	Lys
								485			490			495	
Ile	Ile	Gln	Asp	His	Lys	Gly	Thr	Ile	Arg	Ala	Glu	Ser	Glu	Leu	Asn
								500			505			510	
Val	Gly	Thr	Lys	Phe	Ile	Ile	Ala	Leu	Pro	Leu	Leu	Lys	Asn	Asp	
								515			520			525	

<210> 9086

<211> 488

<212> PRT

<213> B.fragilis

<400> 9086

Lys	Phe	Cys	Leu	Ile	Asn	Lys	Cys	Ile	Thr	Ala	Ala	Met	Ser	Glu	Ser	
1								5				10			15	
Ser	His	Val	Gly	Leu	Trp	Asn	Arg	Cys	Leu	Glu	Ile	Ile	Arg	Asp	Asn	
								20			25			30		
Val	Pro	Glu	Ser	Thr	Tyr	Lys	Thr	Trp	Phe	Val	Pro	Ile	Val	Pro	Leu	
								35			40			45		
Lys	Tyr	Glu	Asp	Lys	Thr	Leu	Ile	Val	Gln	Val	Pro	Ser	Gln	Phe	Phe	
								50			55			60		
Tyr	Glu	Phe	Leu	Glu	Asp	Lys	Phe	Val	Asp	Leu	Leu	Arg	Lys	Thr	Leu	
								65			70			75		80
Tyr	Lys	Val	Ile	Gly	Asp	Gly	Thr	Lys	Leu	Met	Tyr	Asn	Val	Leu	Val	
								85			90			95		
Asp	Lys	Ser	Ser	Gly	Ala	Thr	Val	Asn	Gln	Glu	Ser	Thr	Thr	Arg	Ser	
								100			105			110		
Thr	Ala	Ile	Pro	Gln	Ser	Gly	Leu	Pro	Arg	Val	Asp	Glu	Arg	Lys	Ala	
								115			120			125		
Pro	Gly	Leu	Leu	Arg	Ala	Pro	Ala	Val	Gln	Asp	Leu	Asp	Pro	His	Leu	
								130			135			140		
Asn	Pro	Asn	Tyr	Asn	Phe	Glu	Thr	Phe	Ile	Glu	Gly	Tyr	Ser	Asn	Lys	
								145			150			155		160
Leu	Ser	Arg	Ser	Val	Ala	Glu	Ala	Val	Ala	Glu	Asn	Pro	Ala	Lys	Thr	
								165			170			175		
Val	Phe	Asn	Pro	Leu	Phe	Leu	His	Gly	Ala	Ser	Gly	Val	Gly	Lys	Thr	
								180			185			190		
His	Leu	Ala	Asn	Ala	Ile	Gly	Thr	Arg	Ile	Lys	Glu	Leu	Tyr	Pro	Asp	
								195			200			205		
Lys	Arg	Val	Leu	Tyr	Val	Ser	Ala	His	Leu	Phe	Gln	Val	Gln	Tyr	Thr	
								210			215			220		
Asp	Ser	Val	Arg	Asn	Asn	Thr	Thr	Asn	Asp	Phe	Ile	Asn	Phe	Tyr	Gln	
								225			230			235		240
Thr	Ile	Asp	Val	Leu	Ile	Ile	Asp	Asp	Ile	Gln	Glu	Phe	Ala	Gly	Val	
								245			250			255		
Thr	Lys	Thr	Gln	Asn	Thr	Phe	Phe	His	Ile	Phe	Asn	His	Leu	His	Gln	

B. fragilis protein sequence alignment

260	265	270
Asn Gly Lys Gln Leu Ile Leu Thr Ser Asp Arg Ala Pro Val Leu Leu		
275	280	285
Gln Gly Met Glu Glu Arg Leu Leu Thr Arg Phe Lys Trp Gly Met Val		
290	295	300
Ala Glu Leu Glu Lys Pro Thr Val Glu Leu Arg Lys Asn Ile Leu Arg		
305	310	315
Asn Lys Ile His Arg Asp Gly Leu Gln Phe Pro Ser Glu Val Ile Asp		
325	330	335
Tyr Ile Ala Glu Asn Val Asn Glu Ser Val Arg Asp Leu Glu Gly Ile		
340	345	350
Val Ile Ser Ile Met Ala His Ser Thr Ile Tyr Asn Lys Glu Ile Asp		
355	360	365
Leu Asp Leu Ala Gln Arg Ile Val Arg Lys Val Val Arg Cys Glu Thr		
370	375	380
Lys Ala Val Thr Ile Asp Asp Ile Ile Asn Val Val Cys Lys His Phe		
385	390	395
Asp Leu Glu Ser Ser Ala Ile His Thr Lys Ser Arg Lys Arg Glu Val		
405	410	415
Val Gln Ala Arg Gln Val Ala Met Tyr Leu Ala Lys Thr His Thr Asp		
420	425	430
Phe Ser Thr Ser Lys Ile Gly Lys Phe Ile Gly Asn Lys Asp His Ala		
435	440	445
Thr Val Leu His Ala Cys Lys Thr Val Lys Gly Gln Cys Glu Val Asp		
450	455	460
Lys Gly Phe Arg Ser Asp Leu Glu Asn Ile Glu Thr Leu Leu Lys Lys		
465	470	475
Arg Asn Val Ser Asn Gly Glu Arg		
485		

<210> 9087

<211> 221

<212> PRT

<213> B.fragilis

<400> 9087

Pro Met Asn Val Gln Ile Glu Glu Ser Trp Lys Thr His Leu Glu Pro		
1	5	10
Glu Phe Glu Lys Asp Tyr Phe Arg Thr Leu Thr Glu Phe Val Arg Ser		
20	25	30
Glu Tyr Ser Gln Tyr Gln Ile Phe Pro Pro Gly Lys Leu Ile Phe Asn		
35	40	45
Ala Phe Asn Leu Cys Pro Phe Asp Lys Val Lys Val Val Ile Ile Gly		
50	55	60
Gln Asp Pro Tyr His Gly Pro Gly Gln Ala His Gly Leu Cys Phe Ser		
65	70	75
80		
Val Asn Asp Gly Val Ala Phe Pro Pro Ser Leu Val Asn Ile Phe Lys		
85	90	95
Glu Ile Lys Glu Asp Ile Gly Thr Pro Ala Pro Ser Thr Gly Asn Leu		
100	105	110
Thr Arg Trp Ala Glu Gln Gly Val Leu Leu Leu Asn Ala Thr Leu Thr		
115	120	125
Val Arg Ala His Gln Ala Gly Ser His Gln Arg Arg Gly Trp Glu Glu		
130	135	140
Phe Thr Asp Ala Ala Ile Arg Val Leu Ala Glu Glu Arg Glu Asn Leu		
145	150	155
Val Phe Ile Leu Trp Gly Ser Tyr Ala Gln Lys Lys Gly Ala Phe Ile		
165	170	175
Asp Arg Asn Lys His Leu Val Leu Ser Ser Ala His Pro Ser Pro Leu		

180	185	190
Ser Ala Tyr Asn Gly Phe Phe Gly Asn Lys His Phe Ser Lys Thr Asn		
195	200	205
Glu Tyr Leu Lys Ala His Gly Lys Thr Glu Ile Asn Trp		
210	215	220

<210> 9088

<211> 176

<212> PRT

<213> B.fragilis

<400> 9088

Lys Asp Asp Val Met Glu Lys Leu Ile Arg Arg Ile Gly Leu Val Ala		
1	5	10
His Asp Ala Met Lys Lys Asp Leu Ile Glu Trp Val Leu Trp Asn Ser		
20	25	30
Glu Leu Leu Met Gly His Lys Phe Tyr Cys Thr Gly Thr Thr Gly Thr		
35	40	45
Leu Ile Gln Glu Ala Leu Lys Glu Lys His Pro Asp Val Glu Trp Asp		
50	55	60
Phe Thr Ile Leu Lys Ser Gly Pro Leu Gly Gly Asp Gln Gln Met Gly		
65	70	75
Ser Arg Ile Val Asp Gly Glu Ile Asp Tyr Leu Phe Phe Thr Asp		
85	90	95
Pro Met Thr Leu Gln Pro His Asp Thr Asp Val Lys Ala Leu Thr Arg		
100	105	110
Leu Ala Ser Val Glu Asn Ile Val Phe Cys Cys Asn Arg Ser Thr Ala		
115	120	125
Asp His Ile Ile Ser Ser Pro Leu Phe Leu Asp Pro Asp Tyr Glu Arg		
130	135	140
Thr His Pro Asp Tyr Ser Gly Tyr Thr Lys Arg Phe Glu Asn Lys Pro		
145	150	155
Val Val Thr Glu Ala Val Glu Ser Val Lys Lys Arg Lys Arg Lys Lys		
165	170	175

<210> 9089

<211> 189

<212> PRT

<213> B.fragilis

<400> 9089

Asn Tyr Lys Val Met Thr Glu Ser Glu Val Arg Lys Leu Leu Arg Arg		
1	5	10
Met Lys Glu Leu Asp Ser Gln Thr Ala Phe Arg Ala Phe Tyr Asp Met		
20	25	30
Thr Tyr Asp Arg Leu Tyr Arg Ile Ala Tyr Tyr Tyr Val Lys Arg Glu		
35	40	45
Glu Trp Ser Gln Glu Ile Val Leu Asp Val Phe Leu Lys Leu Trp Glu		
50	55	60
Gln Arg Ser Ser Leu Pro Glu Val Lys Ser Ile Glu Asp Tyr Cys Phe		
65	70	75
Ile Leu Val Lys Asn Ala Ser Leu Asn Tyr Leu Glu Lys Glu Asn Arg		
85	90	95
Arg Thr Thr Val Ser Thr Glu Thr Leu Pro Glu Pro Glu Ala Gln Ser		
100	105	110
Asp Ser Pro Glu Glu Ser Met Ile Ser Glu Glu Leu Phe Ala Ile Tyr		
115	120	125
Val Lys Ala Leu Asp Arg Leu Pro Glu Arg Cys Arg Glu Val Phe Ile		
130	135	140

Arg Ile Arg Glu Glu Lys Gln Ser Tyr Ala Gln Val Ala Glu Glu Leu
 145 150 155 160
 Gly Ile Ser Thr Lys Thr Val Asp Ala Gln Leu Gln Lys Ala Thr Ile
 165 170 175
 Arg Leu Lys Glu Ala Ile Ser Met Val Asn Asn Asp Arg
 180 185

<210> 9090

<211> 179

<212> PRT

<213> B.fragilis

<400> 9090

Asn Met Lys Val Leu Asp Leu Ile Asp Lys Tyr Tyr Pro Gln Asp Asn
 1 5 10 15
 Glu Leu Lys His Ile Leu Asn Val His Ser Arg Ser Val Ala Asp Lys
 20 25 30
 Ala Leu Trp Ile Ala Gly Lys His Pro Glu Leu Asn Leu Asp Thr Val
 35 40 45
 Phe Leu Glu Glu Ala Ala Met Leu His Asp Ile Gly Ile Phe Leu Thr
 50 55 60
 His Ala Pro Gly Ile Gln Cys Phe Gly Thr Glu Pro Tyr Ile Cys His
 65 70 75 80
 Gly Tyr Leu Gly Ala Gly Leu Val Arg Lys Glu Gly Phe Pro Arg His
 85 90 95
 Ala Leu Val Cys Glu Arg His Thr Gly Ala Gly Leu Ser Leu Lys Asp
 100 105 110
 Ile Met Asp Gln Lys Leu Pro Val Pro His Arg Glu Met Leu Pro Val
 115 120 125
 Ser Met Glu Glu Gln Val Ile Cys Phe Ala Asp Lys Phe Phe Ser Lys
 130 135 140
 Thr His Leu Asp Arg Glu Lys Thr Val Glu Gly Ala Arg Lys Ser Ile
 145 150 155 160
 Ala Lys Tyr Gly Asp Glu Gly Leu Gln Arg Phe Asn Asn Trp Cys Lys
 165 170 175
 Leu Phe Leu

<210> 9091

<211> 375

<212> PRT

<213> B.fragilis

<400> 9091

Asn Asp Gln Phe Asp Asn Ile Leu Ala Tyr Cys Ser Tyr Arg Tyr Arg
 1 5 10 15
 Tyr Tyr Ser Tyr Leu Cys Arg Gln Ile Thr Ile Asn Lys Pro Met Ser
 20 25 30
 Tyr Leu Ile Lys Pro Gln Asn Tyr Lys Pro Leu Leu Asp Leu Lys Gln
 35 40 45
 Thr Glu Leu Gly Ile Lys Gln Ile Lys Glu Phe Phe Gln Leu Asn Leu
 50 55 60
 Ser Ser Glu Leu Arg Leu Arg Arg Val Thr Ala Pro Leu Phe Val Leu
 65 70 75 80
 Lys Gly Met Gly Ile Asn Asp Asp Leu Asn Gly Ile Glu Arg Pro Val
 85 90 95
 Ser Phe Pro Ile Lys Asp Leu Gly Asp Ala Gln Ala Glu Val Val His
 100 105 110
 Ser Leu Ala Lys Trp Lys Arg Leu Thr Leu Ala Asp Tyr His Ile Glu

115	120	125
Pro Gly Tyr Gly Ile Tyr Thr Asp Met Asn Ala Ile Arg Ser Asp Glu		
130	135	140
Glu Leu Gly Asn Leu His Ser Leu Tyr Val Asp Gln Trp Asp Trp Glu		
145	150	155
Arg Val Ile Thr Ala Glu Asp Arg Asn Ala Asp Phe Leu Lys Glu Ile		160
165	170	175
Val Asn Arg Ile Tyr Ala Ala Met Ile Arg Thr Glu Tyr Met Val Tyr		
180	185	190
Glu Met Tyr Pro Gln Ile Lys Pro Cys Leu Pro Gln Lys Leu His Phe		
195	200	205
Ile His Ser Glu Glu Leu Arg Gln Leu Tyr Pro Asp Met Glu Pro Lys		
210	215	220
Cys Arg Glu His Ala Ile Cys Lys Tyr Gly Ala Val Phe Ile Ile		
225	230	235
Gly Ile Gly Cys Lys Leu Ser Asp Gly Lys Lys His Asp Gly Arg Ala		240
245	250	255
Pro Asp Tyr Asp Tyr Thr Ser Lys Gly Leu Asn Asp Leu Pro Gly		
260	265	270
Leu Asn Gly Asp Leu Leu Leu Trp Asp Asp Val Leu Gln Arg Ser Ile		
275	280	285
Glu Leu Ser Ser Met Gly Ile Arg Val Asp Lys Glu Ala Leu Leu Arg		
290	295	300
Gln Val Lys Gln Glu Asn Gln Glu Gln Arg Leu Glu Leu Tyr Phe His		
305	310	315
Lys Arg Leu Leu Asn Asp Thr Leu Pro Leu Ser Ile Gly Gly Ile		
325	330	335
Gly Gln Ser Arg Leu Cys Met Phe Tyr Leu Arg Lys Ala His Ile Gly		
340	345	350
Glu Ile Gln Ala Ser Ile Trp Pro Glu Glu Met Arg Arg Glu Cys Thr		
355	360	365
Ala Leu Asn Ile His Leu Ile		
370	375	

<210> 9092

<211> 211

<212> PRT

<213> B.fragilis

<400> 9092

Arg Thr Leu Ser Pro Phe Ala Asp Asp Thr Tyr Leu Cys Ile Ile Gln		
1	5	10
Thr Asp Ala Lys Ser Leu Met Glu Thr Phe Ile Glu Lys Phe Arg Asn		
20	25	30
Ser Tyr His Leu Ser Glu Asn Asp Thr Gln Thr Leu Leu Ser Tyr Met		
35	40	45
Glu Glu Ile Arg Phe Lys Lys Glu Val Ile Val His Glu Gly Ser		
50	55	60
Lys Asn Gly Asn Leu Tyr Leu Ile Lys Gln Gly Ile Trp Arg Ala His		
65	70	75
Tyr Leu Lys Asp Gly Val Asp Thr Thr Ile Trp Phe Ala Gly Ala Gly		
85	90	95
Glu Ala Ala Phe Ser Val Trp Gly Tyr Val Glu Asn Thr Ala Ser His		
100	105	110
Ile Thr Ile Glu Val Met Cys Asp Ser Ile Ala Tyr Cys Ile Pro Gly		
115	120	125
Ser Thr Leu Asn Asn Leu Tyr Ala Ser Ser Leu Gly Leu Ala Asn Leu		
130	135	140
Gly Arg Gln Leu Met Glu Arg Gln Leu Leu Ser Leu Glu Asn Trp Leu		

145	150	155	160
Ile Ser Ala Gly Ser Pro Lys Ala Lys Glu Arg Tyr Leu Thr Leu Ile			
165	170	175	
Lys Glu His Pro Glu Leu Leu Gln Asn Val Pro Leu Lys His Ile Ala			
180	185	190	
Ser Tyr Leu Trp Ile Thr Pro Gln Ser Leu Ser Arg Ile Arg Arg Glu			
195	200	205	
Met Lys Met			
210			

<210> 9093

<211> 519

<212> PRT

<213> B.fragilis

<400> 9093

Glu Tyr Phe Pro Ser Ser Val Ile Ile Leu Phe Ser Glu Ile Asn Lys			
1	5	10	15
Arg Arg Thr Met Asn Lys Pro Tyr Phe Ile Ala Phe Leu Leu Ser Leu			
20	25	30	
Ala Leu Trp Thr Val Ile Pro Ser Val Phe Ala Gly Asp Val Val Leu			
35	40	45	
Lys Val Phe Glu Gly Lys Pro Arg Ile Asn Ser Pro His Ile Thr Gly			
50	55	60	
Asn Tyr Pro Ser Thr Pro Phe Ile Phe Tyr Ile Pro Thr Ser Gly Gln			
65	70	75	80
Arg Pro Met Gln Trp Ser Ala Glu Lys Leu Pro Glu Gly Leu Glu Leu			
85	90	95	
Asp Ser Lys Thr Gly Ile Ile Ser Gly Val Val Thr Ser Lys Gly Asp			
100	105	110	
Tyr Thr Val Thr Leu Lys Ala Glu Asn Ala Leu Gly Val Ser Val Lys			
115	120	125	
Gln Leu Val Ile Arg Ile Gly Asp Glu Leu Leu Leu Thr Pro Pro Met			
130	135	140	
Gly Trp Asn Ser Trp Asn Thr Phe Gly Gln His Leu Thr Glu Glu Leu			
145	150	155	160
Val Leu Gln Thr Ala Asp Ala Met Ile Thr Asn Gly Met Arg Asp Leu			
165	170	175	
Gly Tyr Ser Tyr Ile Asn Ile Asp Asp Phe Trp Gln Leu Pro Glu Arg			
180	185	190	
Gly Ala Asp Gly His Leu Gln Ile Asp Lys Thr Lys Phe Pro Arg Gly			
195	200	205	
Ile Lys Tyr Val Ala Asp Tyr Leu His Glu Arg Gly Phe Lys Leu Gly			
210	215	220	
Ile Tyr Ser Asp Ala Ala Glu Lys Thr Cys Gly Gly Val Cys Gly Ser			
225	230	235	240
Tyr Gly Tyr Glu Glu Thr Asp Ala Lys Asp Phe Ala Ser Trp Gly Val			
245	250	255	
Asp Leu Leu Lys Tyr Asp Tyr Cys Asn Ala Pro Val Asp Arg Val Glu			
260	265	270	
Ala Met Glu Arg Tyr Ala Lys Met Gly Arg Ala Leu Arg Ala Thr Asn			
275	280	285	
Arg Ser Ile Val Tyr Ser Val Cys Glu Trp Gly Gln Arg Glu Pro Trp			
290	295	300	
Lys Trp Ala Lys Gln Val Gly Gly His Leu Trp Arg Val Ser Gly Asp			
305	310	315	320
Ile Gly Asp Ile Trp Tyr Arg Asp Gly Asn Arg Val Gly Gly Leu His			
325	330	335	
Gly Ile Leu Asn Ile Leu Glu Ile Asn Ala Pro Leu Ser Glu Tyr Ala			

340	345	350
Ser Pro Ser Gly Trp Asn Asp Pro Asp Met Leu Val Val	Gly Ile Asp	
355	360	365
Gly Lys Ser Met Ser Ile Gly Tyr Glu Ser Glu Gly Cys Thr Gln Glu		
370	375	380
Gln Tyr Lys Ser His Phe Ser Leu Trp Cys Met Met Ala Ser Pro Leu		
385	390	395
Leu Ser Gly Asn Asp Val Arg Asn Met Asn Asp Ser Thr Leu Lys Ile		400
405	410	415
Leu Leu Asp Pro Asp Leu Ile Ala Ile Asn Gln Asp Val Leu Gly Arg		
420	425	430
Gln Ala Glu Arg Ser Ile Arg Ser Asp His Tyr Asp Ile Trp Val Lys		
435	440	445
Pro Leu Ala Asp Gly Cys Lys Ala Val Ala Cys Phe Asn Arg Ala Ser		
450	455	460
Ser Pro Gln Thr Val Ile Leu Asn Glu Asn Thr Ile Ala Asp Leu Ser		
465	470	475
Phe Glu Gln Ile Tyr Cys Leu Asp Ser His Leu Thr Lys Ser Gly Ser		480
485	490	495
Asp Ser Lys Glu Leu Ile Val Lys Leu Ala Pro Tyr Gln Cys Lys Val		
500	505	510
Tyr Ile Phe Gly Lys Thr Asp		
515		

<210> 9094

<211> 167

<212> PRT

<213> B.fragilis

<400> 9094

Asn Tyr Lys Pro Pro Thr His Met Lys Asp Leu Thr Ile Thr Ser Val		
1	5	10
Ile Lys Val Tyr Glu Tyr Asp Glu Leu Asn Asp Thr Asp Arg Ala Leu		15
20	25	30
Leu Asp Asp Ala Ile Glu Ala Thr Arg Arg Ser Tyr Ala Pro Tyr Ser		
35	40	45
His Phe Ser Val Gly Ala Ala Ala Leu Leu Ala Asn Gly Val Val Val		
50	55	60
Thr Gly Thr Asn Gln Glu Asn Ala Ala Tyr Pro Ser Gly Leu Cys Ala		
65	70	75
Glu Arg Thr Thr Leu Phe Tyr Ala Asn Ser Gln Tyr Pro Asp Gln Ala		80
85	90	95
Val Val Thr Leu Ala Ile Ala Ala Arg Thr Glu Lys Asp Phe Ile Asp		
100	105	110
Thr Pro Ile Pro Pro Cys Gly Ala Cys Arg Gln Val Ile Leu Glu Thr		
115	120	125
Glu Lys Arg Tyr Lys Gln Pro Ile Arg Ile Leu Leu Tyr Gly Lys Lys		
130	135	140
Cys Ile Tyr Glu Val Gln Ser Ile Gly His Leu Leu Pro Leu Ser Phe		
145	150	155
Asp Ala Ser Ala Met Glu Asp		160
165		

<210> 9095

<211> 426

<212> PRT

<213> B.fragilis

<400> 9095

Lys Gln Arg Pro Met Met Ile Lys Gln Ile Phe Lys Met Ile Trp Asn
 1 5 10 15
 Gln Arg Arg Leu Asn Gly Trp Ile Trp Met Glu Leu Leu Val Val Phe
 20 25 30
 Val Ala Leu Trp Tyr Leu Val Asp Met Phe Val Val Gln Leu Tyr Ser
 35 40 45
 Tyr Thr Arg Pro Met Gly Tyr Asp Ile Thr Asn Cys Trp Lys Leu Ser
 50 55 60
 Phe Asp Val Tyr Pro Glu Asp Ala Asp Glu Tyr Val Asn Asp Thr Thr
 65 70 75 80
 Gln Thr Gln Thr Glu Gly Glu Ala Leu Ala Lys Ile Leu Glu Arg Leu
 85 90 95
 Arg Arg Ala Pro Glu Val Asp Asn Ala Cys Val Ala Phe Tyr Ser Ser
 100 105 110
 Pro Tyr Ser Gly Gly Asn Ser Trp Thr Gln Ile Met Pro Cys Thr Ala
 115 120 125
 Asp Ser Ser Lys Phe Lys Glu Gln Ser Tyr His Gln Tyr Ile Val Ser
 130 135 140
 Ala Glu Phe Tyr Asp Val Phe Arg Ile Lys Asn Arg Glu Gly Lys Pro
 145 150 155 160
 Leu Ser Glu Leu Leu Thr Gln Lys Gln Leu Ser Tyr Phe Ile Thr Pro
 165 170 175
 Ala Leu Glu Lys Asp Phe Phe Gly Ser Gln Ser Ala Val Gly Gln Lys
 180 185 190
 Val Arg Tyr Pro Gly Ser Thr Arg Glu Ile His Ile Ala Ala Val Thr
 195 200 205
 Ala Pro Val Arg Ile Thr Glu Phe Val Lys Pro Glu Pro Glu Leu Phe
 210 215 220
 Phe Thr Met Trp Pro Lys Glu Leu Glu Arg Gln Val Asn Ala Thr Gly
 225 230 235 240
 Ala Ser Asn Met Glu Val Thr Val Arg Met Lys Glu Glu Leu Thr Ser
 245 250 255
 Glu Gln Met Gly His Phe Leu Asn Arg Met Lys Asn Gln Leu Thr Glu
 260 265 270
 Asn Asn Leu Tyr Ile Thr Gly Met Glu Asp Met Lys Gln Gln Arg Ser
 275 280 285
 Asp Arg Leu Gln Tyr Glu Trp Arg Lys Ile Ser Ile Asn Leu Leu Leu
 290 295 300
 Ser Val Phe Ile Leu Leu Asn Val Leu Phe Gly Ile Thr Gly Thr Phe
 305 310 315 320
 Trp Leu Arg Ile Glu Gln Arg Arg Cys Glu Thr Gly Leu Arg Met Ala
 325 330 335
 Leu Gly Ser Thr Arg Arg Arg Val Gly Trp Phe Phe Thr Ala Glu Gly
 340 345 350
 Trp Leu Leu Leu Thr Thr Val Val Pro Leu Val Leu Val Val Ile Phe
 355 360 365
 Asn Met Val His Met Glu Ile Pro Asp Leu Tyr Asn Leu Ser Phe Thr
 370 375 380
 Trp Trp Arg Phe Ala Val Ser Phe Gly Gly Val Leu Leu Leu Met Gly
 385 390 395 400
 Leu Ile Ile Ala Leu Gly Ile Trp Leu Pro Ala Arg Arg Ala Met Lys
 405 410 415
 Leu Gln Pro Ala Glu Ala Leu His Tyr Glu
 420 425

<210> 9096

<211> 81

<212> PRT

<213> B.fragilis

<400> 9096

Arg	His	His	Thr	Gly	Cys	Arg	Thr	Gln	Asp	Leu	Ser	Tyr	Val	Phe	Lys
1				5				10						15	
Phe	Arg	Cys	Cys	Ser	Lys	Asn	Asn	Ile	Ser	Ser	Arg	Met	Ile	Asp	Pro
				20				25					30		
Tyr	Ser	Leu	Lys	Lys	Ala	Lys	Glu	Asp	Glu	Glu	Asp	Lys	Met	Leu	Lys
			35			40					45				
Glu	Val	Arg	Leu	Pro	Ile	Gly	Gln	Val	Gln	Thr	Asp	Ile	Pro	Leu	Thr
			50			55				60					
Cys	Leu	Leu	Phe	Lys	Glu	Tyr	Val	Pro	Arg	Asn	Asp	Gln	Leu	Lys	Asn
	65			70				75			80				
Arg															

<210> 9097

<211> 329
<212> PRT
<213> B.fragilis

<400> 9097

Leu	Val	Thr	Thr	Arg	Pro	Thr	Ser	Leu	Ser	Trp	Thr	Ser	Leu	Pro	Thr
1				5				10					15		
Ile	Trp	Ile	Tyr	Lys	Val	Ser	Lys	Ser	Ser	Gln	Leu	Pro	Phe	Gly	Thr
			20				25					30			
Ile	Arg	Ala	Val	Tyr	Cys	Leu	Tyr	His	Met	Met	Asn	Ile	Leu	Gln	Arg
	35				40				45						
Lys	Pro	Ala	Ser	Glu	Arg	Val	Ser	Phe	Tyr	Asn	Phe	Ala	Pro	Phe	Lys
	50				55				60						
Lys	Asn	Asn	Pro	Lys	Met	Ile	Asn	Thr	Glu	Thr	Asn	Tyr	Arg	Trp	Phe
	65				70			75			80				
Ile	Phe	Tyr	Gln	Asp	Gln	Leu	Leu	Leu	Glu	Lys	Asn	Asp	Asn	Ala	Phe
			85				90				95				
Ser	Ile	Pro	Thr	Gly	Lys	Asn	Ala	Pro	Val	Thr	Ile	Pro	Glu	Gly	Ile
	100				105			110							
Thr	Val	His	Thr	Ile	Thr	Thr	Ala	Thr	Gly	Met	Val	Cys	Lys	Ala	Phe
	115				120			125							
Tyr	Thr	Asp	Ser	Pro	Ile	Ala	Glu	Thr	Pro	Glu	Tyr	Val	Gln	Ile	Gly
	130				135			140							
Leu	Arg	Ala	Ser	Tyr	Asp	Tyr	Leu	Ser	Pro	Glu	His	Tyr	Gln	Ala	Ala
	145				150			155			160				
Gly	Lys	Val	His	Glu	Ile	Leu	Tyr	Trp	Asp	Arg	Ser	Asn	Arg	Phe	Cys
	165				170			175							
Pro	Thr	Cys	Gly	Thr	Pro	Leu	Val	Gln	Lys	Glu	Pro	Ile	Met	Lys	Lys
	180				185			190							
Cys	Pro	Asn	Cys	Gly	Arg	Glu	Ile	Tyr	Pro	Val	Ile	Ser	Thr	Ala	Ile
	195				200			205							
Leu	Val	Leu	Val	Arg	Lys	Glu	Asp	Ser	Leu	Leu	Leu	Val	His	Ala	Arg
	210				215			220							
Asn	Phe	Lys	Gly	Thr	Phe	Asn	Ser	Leu	Val	Ala	Gly	Phe	Leu	Glu	Thr
	225				230			235			240				
Gly	Glu	Thr	Leu	Glu	Glu	Cys	Val	Ala	Arg	Glu	Val	Lys	Glu	Glu	Thr
	245				250			255							
Gly	Leu	Asp	Val	Lys	Asn	Ile	Arg	Tyr	Phe	Gly	Ser	Gln	Pro	Trp	Pro
	260				265			270							
Tyr	Pro	Ser	Gly	Leu	Met	Val	Gly	Phe	Ile	Ala	Asp	Tyr	Ala	Gly	Gly
	275				280			285							
Asp	Ile	His	Leu	Gln	Asp	Asp	Glu	Leu	Ser	Ser	Gly	Asn	Phe	Tyr	Thr
	290				295			300							

Arg Asp His Leu Pro Glu Leu Pro Arg Lys Leu Ser Leu Ala Arg Lys
 305 310 315 320
 Met Ile Asp Trp Trp Ile Ala Gln Gln
 325

<210> 9098

<211> 213

<212> PRT

<213> B.fragilis

<400> 9098

Ser Leu His Gln Lys Val Lys Pro Ile Lys Arg Asn Ser Met Lys Glu
 1 5 10 15
 Lys Phe Ile Thr Leu Leu Thr Val Ala Ser Gly Leu Lys Gly Phe Gly
 20 25 30
 Leu Lys Phe Ile Arg Val Ala Ile Leu Val Val Phe Val Trp Ile Gly
 35 40 45
 Gly Leu Lys Tyr Phe His Tyr Glu Ala Asp Gly Ile Val Pro Phe Val
 50 55 60
 Ala Asn Ser Pro Phe Met Ser Phe Phe Tyr Ala Lys Asp Ala Pro Glu
 65 70 75 80
 Tyr Lys Glu His Lys Asn Pro Glu Gly Ala Tyr Val Pro Ala Asn Arg
 85 90 95
 Glu Trp His Glu Ala Asn Arg Thr Tyr Thr Phe Ser Tyr Gly Leu Gly
 100 105 110
 Ala Leu Ile Met Ser Ile Gly Ile Leu Val Phe Leu Gly Ile Phe Phe
 115 120 125
 Pro Lys Val Ala Leu Val Gly Asp Thr Leu Ala Ile Ile Met Thr Leu
 130 135 140
 Gly Thr Leu Ser Phe Leu Val Thr Thr Pro Glu Val Trp Val Pro Asn
 145 150 155 160
 Leu Gly Ser Gly Glu Tyr Gly Phe Pro Leu Leu Ser Gly Ala Gly Arg
 165 170 175
 Leu Val Ile Lys Asp Ile Val Ile Leu Ala Ser Ala Val Thr Leu Leu
 180 185 190
 Ser Asp Ser Ser Gln Arg Val Leu Asn Ser Leu Lys Lys Ala Asp Trp
 195 200 205
 Glu Lys Arg Asn Lys
 210

<210> 9099

<211> 287

<212> PRT

<213> B.fragilis

<400> 9099

Arg Ile Ser His Gly Gly Leu Ile Met Ile Arg Thr Tyr Gln Thr Lys
 1 5 10 15
 Leu Lys Gly Met Leu Ala Leu Thr Thr Ser Tyr His Thr Glu Lys Ser
 20 25 30
 Leu Gln Lys Glu Lys Ser Leu Tyr Lys Phe Ile Trp Val Arg Lys Gly
 35 40 45
 Ser Ile Thr Leu Glu Ile Asp His Gln Glu Val Ile Leu Ala Glu Asn
 50 55 60
 Glu Val Ile Ser Leu Ser Asn Leu Gln His Leu Glu Phe Leu Ser Ile
 65 70 75 80
 Asp Gly Glu Tyr Leu Thr Val Leu Phe Asn Ser Asn Phe Tyr Cys Ile
 85 90 95
 Tyr Gly Asn Asp His Glu Val Ser Cys Ser Gly Phe Leu Phe Asn Gly

100	105	110
Ser Ser His Val Val Arg Phe Met	Leu Asn Glu Ser Glu Arg Arg Ser	
115	120	125
Met Glu Asp Val Val Gly Leu	Leu Asp Arg Glu Phe Thr Val Ser Asp	
130	135	140
Asn Leu Gln Glu Glu Met	Leu Arg Ile Leu Leu Lys Arg Phe Ile Ile	
145	150	155
Gln Ser Thr Arg Ile Ala Arg Gln	Arg Leu Asn Ile Thr Gln Glu Lys	
165	170	175
Glu Tyr Ser Phe Glu Ile Ile Arg Gln	Tyr Tyr Asn Leu Val Asp Glu	
180	185	190
His Phe Arg Thr Lys Lys Gln	Val Gln Asp Tyr Ala Asp Leu Leu His	
195	200	205
Lys Ser Pro Lys Thr Leu Ser Asn Ile	Phe Ser Ser Cys Lys Leu Pro	
210	215	220
Ser Pro Leu Arg Val Ile His	Glu Arg Val Glu Ala Glu Ala Lys Arg	
225	230	235
Leu Leu Leu Tyr Ser Asn Lys Ser Ser	Lys Glu Ile Ala Asp Ile Leu	
245	250	255
Gly Phe Glu Asp Gln Ser Ser Phe	Ser Arg Phe Phe Lys Asn Met Thr	
260	265	270
Gly Glu Ser Pro Val Gln Tyr Arg Asn Ser	Val Glu Gly Lys Asn	
275	280	285

<210> 9100

<211> 478

<212> PRT

<213> B.fragilis

<400> 9100

Gly Gly Ile His Met Asn Lys Ile Lys Asn Leu Phe Val Ile Ile Leu			
1	5	10	15
Phe Ala Leu Val Ala Phe Ser Cys Ser Asp Ile Leu Asp Lys Gly Pro			
20	25	30	
Leu Asp Lys Tyr Ser Glu Asn Asp Val Trp Lys Ser Thr Asp Leu Thr			
35	40	45	
Gln Ala Phe Ile Tyr Thr Ala Leu Ala Asn Ala Thr Asn Met Met Val			
50	55	60	
Trp Lys Asp Asn Trp Thr Asp Asn Glu Ala Ile Met Glu Asp Gly Arg			
65	70	75	80
Asp Val Asn Ala Glu Leu Ile Asp Arg Tyr Tyr Asp Ala Gly Trp Asn			
85	90	95	
Lys Tyr Glu Asp Ile Arg Arg Cys Asn Met Val Leu Ala Arg Val Pro			
100	105	110	
Glu Ala Pro Phe Thr Asn Ala Glu Lys Ala Asn Phe Ile Ala Gln Ala			
115	120	125	
Lys Thr Ile Arg Ala Met Ile Tyr Phe Thr Arg Ala Arg Leu Phe Gly			
130	135	140	
Lys Leu Met Leu Val Lys Glu Leu Ile Asp Pro Glu Ala Asp Met Lys			
145	150	155	160
Phe Pro Arg Thr Ala Thr Val Lys Glu Thr Tyr Asp Phe Ile Leu Asn			
165	170	175	
Asp Leu Arg Glu Ala Ala Pro Asp Leu Pro Val Asp Ala Pro Ser Gly			
180	185	190	
Ala Leu Ser Arg Gly Val Ala Tyr Ala Leu Leu Gly Glu Ala Ala Leu			
195	200	205	
His Gly Ala Ala Tyr Ile Glu Asn Gly Gln Glu Glu Tyr Tyr Arg Ile			
210	215	220	
Ala Ala Lys Ala Cys Glu Asp Leu Phe Ala Leu Asp Lys Tyr Ser Leu			

225	230	235	240												
Asp	Gly	Asn	Tyr	Ala	Gly	Met	Phe	Asn	Asp	Tyr	Asp	His	Ser	Leu	Ala
245	250	255													
Ser	Ser	Glu	Ile	Ile	Leu	Ala	Gln	Trp	Arg	Ser	Ala	Glu	Asn	Thr	Asn
260	265	270													
Phe	Ser	Asp	Thr	Trp	Met	Gln	Arg	Leu	Val	Pro	Asn	Ile	Asp	Pro	Ser
275	280	285													
Lys	Leu	Ile	Ala	Asp	Val	Gln	Ala	Lys	Tyr	Pro	Leu	Val	Glu	Glu	Met
290	295	300													
Ala	Gly	Trp	Pro	Gln	Arg	Phe	Pro	Ser	Val	Asp	Leu	Val	Asn	Asp	Tyr
305	310	315	320												
Leu	Val	Val	Asp	Glu	Asp	Gly	Lys	Ala	Lys	Glu	Trp	Asp	Gln	Thr	Ser
325	330	335													
Tyr	Tyr	Lys	Lys	Phe	Leu	Val	Asp	Gly	Gly	Thr	Val	Glu	Asp	Ala	Ile
340	345	350													
Tyr	Lys	Asn	Arg	Asp	Lys	Arg	Phe	Lys	Ala	Ser	Ile	Val	Tyr	Asp	Gly
355	360	365													
Cys	Ser	Tyr	Phe	Ala	Asn	Arg	Val	Trp	Leu	Arg	Glu	Gly	Gly	Asn	Leu
370	375	380													
Tyr	Tyr	Thr	Ser	Lys	Thr	Thr	Glu	Phe	Trp	Gly	Met	Pro	Val	Ser	Gly
385	390	395	400												
Tyr	Val	Tyr	Arg	Lys	Cys	Val	Tyr	Glu	Ala	Lys	Arg	Leu	Leu	Asn	Ser
405	410	415													
Glu	Lys	Thr	Asp	Tyr	His	Tyr	Thr	Leu	Leu	Arg	Leu	Gly	Arg	Ser	Tyr
420	425	430													
Leu	Asn	Tyr	Ala	Glu	Ile	Lys	Leu	Arg	Gln	Gly	Asp	Lys	Glu	Thr	Ala
435	440	445													
Ile	Asp	Tyr	Ile	Asn	Arg	Thr	Arg	Val	Thr	His	Gly	Gly	Phe	Ala	Gly
450	455	460													
Ile	Ala	Lys	Ile	Leu	Ile	Thr	Gly	Arg	Tyr	Leu	Glu	Arg	Val		
465	470	475													

<210> 9101

<211> 467

<212> PRT

<213> B.fragilis

<400> 9101

Arg	Tyr	Ile	Leu	Lys	Val	Ile	Arg	Ile	Met	Lys	Gln	Tyr	Asp	Ala	Ile
1	5	10	15												
Ile	Ile	Gly	Phe	Gly	Lys	Gly	Gly	Lys	Thr	Leu	Thr	Ala	Glu	Leu	Ala
20	25	30													
Lys	Arg	Gly	Trp	Lys	Val	Ala	Leu	Ile	Glu	Arg	Ser	Ala	Met	Met	Tyr
35	40	45													
Gly	Gly	Thr	Cys	Pro	Asn	Ile	Ala	Cys	Val	Pro	Thr	Lys	Arg	Leu	Ile
50	55	60													
His	Glu	Ala	Glu	Lys	Val	Ser	Trp	Leu	Tyr	Pro	Thr	Asp	Tyr	Glu	Lys
65	70	75	80												
Gln	Ala	Glu	Ala	Tyr	Lys	Ala	Ala	Ile	Ala	Arg	Lys	Asn	Glu	Met	Thr
85	90	95													
Ala	Ala	Ser	Arg	Ala	Asn	Met	Phe	Asn	Lys	Leu	Ser	Ser	Leu	Pro	Asn
100	105	110													
Val	Thr	Ile	Tyr	Thr	Gly	Met	Ala	Ser	Phe	Val	Ser	Lys	Asp	Val	Val
115	120	125													
Lys	Val	Thr	Leu	Pro	Asp	Glu	Val	Ile	Glu	Leu	Gln	Gly	Lys	Lys	Ile
130	135	140													
Phe	Ile	Asn	Thr	Gly	Ser	Thr	Ser	Ile	Ile	Pro	Ala	Ile	Asp	Gly	Leu
145	150	155	160												
Lys	Asp	Ser	Lys	Arg	Val	Tyr	Thr	Ser	Thr	Ser	Leu	Met	Glu	Leu	Asp

	165	170	175
Val Leu Pro Arg His Leu Ile Ile Val	Gly Gly Gly Tyr Ile	Gly Leu	
180	185	190	
Glu Phe Ala Ser Met Tyr Ala Ser Phe	Gly Ser Lys Val Thr Val Leu		
195	200	205	
Glu Gly Gly Asn Lys Phe Ile Ala Arg	Glu Asp Arg Asp Ile Ala Asp		
210	215	220	
Ala Val Lys Glu Thr Leu Glu Lys Gly	Ile Glu Ile Arg Leu Asn		
225	230	235	240
Ala Arg Ala Gln Ser Ile Gln Asp Thr	Ala Asp Gly Val Thr Leu Thr		
245	250	255	
Tyr Thr Asp Thr Ala Asp Gly Lys	Pro Val Thr Ile Glu Gly Asp Ala		
260	265	270	
Ile Leu Val Ala Thr Gly Arg Lys	Pro Met Thr Glu Gly Leu Asn Leu		
275	280	285	
Gln Ala Ala Gly Val Glu Val Asp Ser	His Gly Ala Ile Val Val Asn		
290	295	300	
Gly Tyr Leu His Thr Thr Ala Pro Asn	Ile Trp Ala Met Gly Asp Val		
305	310	315	320
Lys Gly Gly Leu Gln Phe Thr Tyr Ile	Ser Leu Asp Asp Tyr Arg Ile		
325	330	335	
Ile Arg Asp Asp Leu Phe Gly Asn Lys	Glu Arg Thr Ala Asp Asp Arg		
340	345	350	
Asn Pro Val Ala Tyr Ser Val Phe	Ile Asp Pro Pro Leu Ser His Val		
355	360	365	
Gly Leu Thr Glu Glu Glu Ala Ile Lys	Arg Gly Tyr Ser Phe Lys Val		
370	375	380	
Ser Arg Leu Pro Ala Ser Ala Leu Pro Arg	Ala Arg Thr Leu Gln Gln		
385	390	395	400
Thr Asp Gly Ile Leu Lys Ala Ile Val	Asp Ser His Ser Gly Arg Ile		
405	410	415	
Met Gly Cys Thr Leu Phe Cys Ala Glu	Ser Ser Glu Val Ile Asn Val		
420	425	430	
Val Asn Met Ala Met Lys Thr Gly Gln	His Tyr Thr Phe Leu Arg Asp		
435	440	445	
Phe Ile Phe Thr His Pro Ser Met Gly	Glu Gly Leu Asn Asp Leu Phe		
450	455	460	
Ser Ile Asp			
465			

<210> 9102

<211> 299

<212> PRT

<213> B.fragilis

<400> 9102

Met Asn Ser Lys Leu Leu Arg Leu Ile	Ala Ile Val Thr Val Leu Ala		
1	5	10	15
Phe Ala Ala Gly Ala Gln Ala Gln	Arg Arg Asn Ser Arg Tyr Val Asp		
20	25	30	
Tyr Ile Asn Lys Tyr Ser Ala Leu	Ala Val Gln Gln Met Lys Glu His		
35	40	45	
Lys Ile Pro Ala Ser Ile Thr Leu	Ala Gln Gly Leu Leu Glu Ser Gly		
50	55	60	
Ala Gly Met Ser Thr Leu Ala Arg	Lys Ser Asn Asn His Phe Gly Ile		
65	70	75	80
Lys Cys Gly Ser Asn Trp Asn Gly	Arg Thr Val Arg His Asp Asp Asp		
85	90	95	
Ala Arg Asn Glu Cys Phe Arg Ala	Tyr Arg Asn Pro Arg Asp Ser Tyr		

100	105	110
Glu Asp His Ser Ala Phe Leu Lys Arg Gly Ala Arg Tyr Ala Phe Leu		
115	120	125
Phe Lys Leu Lys Ile Thr Asp Tyr Lys Gly Trp Ala Arg Gly Leu Lys		
130	135	140
Lys Ala Gly Tyr Ala Thr Asp Pro Ser Tyr Ala Asn Arg Leu Ile Thr		
145	150	155
Ile Ile Glu Asp Tyr Asp Leu Tyr Lys Tyr Asp Arg Lys Gly Gly Trp		
165	170	175
Ser Ser Ser Lys Ser Glu Pro Thr Val Leu Asn Pro His Gln Val Tyr		
180	185	190
Ile Ala Asn Gly Ile Ala Tyr Ile Val Ala Arg Asp Gly Asp Thr Phe		
195	200	205
Lys Ser Leu Ala Lys Glu Phe Asp Ile Arg Trp Lys Lys Leu Val Lys		
210	215	220
Tyr Asn Asp Leu Gln Arg Asp Tyr Thr Leu Met Ser Gly Asp Ile Ile		
225	230	235
Tyr Leu Lys Glu Lys Lys Arg Ala Ser Lys Pro Tyr Thr Val Tyr		
245	250	255
Ile Val Lys Asp Gly Asp Ser Met His Thr Ile Ser Gln Lys Phe Ala		
260	265	270
Ile Arg Leu Lys Asn Leu Tyr Lys Met Asn Arg Lys Asp Gly Asp Tyr		
275	280	285
Ile Pro Glu Val Gly Asp Arg Leu Arg Leu Arg		
290	295	

<210> 9103

<211> 300

<212> PRT

<213> B.fragilis

<400> 9103

1	5	10	15
Val Ile Ser Gln Ala Ile Gly Pro Ser Lys Glu Phe Cys Met Gly Tyr			
20	25	30	
Leu Asn Pro Gly Val Val Gly Gly Glu Gly Tyr Ile Ser Thr Met Lys			
35	40	45	
Leu Ser Val Gly Thr Val Asp Val Lys Asp Leu Asp Ala Ile Thr Glu			
50	55	60	
Arg Ile Val Ala Lys Asp Arg Cys Glu Lys Asn Asp Ala Tyr Leu Gly			
65	70	75	80
Gln Val Asn Leu Met Lys Ala Ser Ser Phe Cys Gly Gln Asn Gly Ala			
85	90	95	
Ile Trp Gly Phe Asp Leu Ala Met His Asp Asp Ile Ala Lys Arg Lys			
100	105	110	
Glu Met Pro Ile Tyr Met Gln Ala Gln Pro Glu Gly Ala Asp Ile Pro			
115	120	125	
Val Tyr Asn Ile Arg Pro Leu Leu Glu Ala Thr Glu Arg Leu Phe Gly			
130	135	140	
Arg Ala Lys Glu Arg Arg Phe Pro Val Leu Pro Gly Ala Tyr Val Pro			
145	150	155	160
Gly Gly Ser Arg Lys Val Val Ala Cys Gly Pro Val Trp Val Trp Ser			
165	170	175	
Val Ile Gly Leu Ala Ile Leu Lys Asp Arg Ser Lys Gly Ala Cys Leu			
180	185	190	
Phe Val Lys Asp Ala Gly Thr Tyr Gly Asp Asp Ser Thr Thr Glu Gly			
195	200	205	
Glu Ala Ile Gly Phe Leu Glu Gly Ile Leu Arg Lys Ala Thr Asn Ser			

210	215	220
Ile Ala Leu Cys Gly Glu Asp Gln Asp Val Ile Tyr Asp Arg Ile Tyr		
225	230	235
Ile Gly Tyr Lys Tyr Thr Phe Val Glu Pro Gly Gln Val Gly Cys Ala		240
245	250	255
Leu Ser Cys Thr Pro Ala Val Tyr Met Ala Gln Asn Ala Ile Pro Ala		
260	265	270
Asp Met Lys Pro Ala Asp Leu Cys Gln Met Thr Ile Ser Asp Trp Glu		
275	280	285
Glu Lys Leu Gly Leu Glu Glu Leu Thr Ile Phe Glu		
290	295	300

<210> 9104

<211> 156

<212> PRT

<213> B.fragilis

<400> 9104

Ser Ile Thr Asn Met Lys Lys Leu Ile Asn Thr Val Leu Leu Phe			
1	5	10	15
Leu Ile Gly Ile Val Ser Ser Cys Leu Lys Ser Gly Leu Asp Asp Leu			
20	25	30	
Glu Ala Tyr Asn Glu Ala Glu Ile Thr Asn Leu Asn Phe Glu Tyr Arg			
35	40	45	
Trp Trp Asp Glu Ala Lys Asp Gln Met Ala Val Lys Thr Leu Asn Ile			
50	55	60	
Glu Lys Gln Ile Ser Gln Asp Asp Asn Leu Ile Thr Cys Lys Leu Thr			
65	70	75	80
Val Pro Ala Ala Gly Gly Ser Phe Thr Asp Ala Val Arg Gln Asn Val			
85	90	95	
Ser Leu Ser Asn Leu Ile Ala Tyr Met Asp Leu Ser Thr Ala Ala Arg			
100	105	110	
Ile Thr Pro Leu Asn Gly Ala Pro Lys Leu Gly Asn Pro Gly Asp Phe			
115	120	125	
Ser Ala Lys Glu Phe Lys Tyr Gln Val Thr Ala Ala Asp Gly Thr Lys			
130	135	140	
Arg Glu Trp Thr Ile Lys Ile Thr Asp Phe Val Lys			
145	150	155	

<210> 9105

<211> 430

<212> PRT

<213> B.fragilis

<400> 9105

Ala Val Cys Leu Leu Ile Cys Lys Ile Met Ile Thr Ile Tyr Leu Lys			
1	5	10	15
Gln Ser Tyr Asn Leu Leu Lys Glu Asn Arg Phe Val Asn Gly Ile Ser			
20	25	30	
Ile Ala Gly Thr Ala Leu Ser Val Ala Ala Val Met Leu Ile Tyr Leu			
35	40	45	
Val Tyr Gln Val Asn Phe Ser Ala Tyr Ala Pro Glu Ser Asn Arg Tyr			
50	55	60	
Arg Ile Leu Phe Val Ser Ser Leu Gln Ala Cys Gly Ser Asp Gly His			
65	70	75	80
Pro Ile Asn Asn Gly Gly Met Ser His Lys Val Val Arg Glu Cys Leu			
85	90	95	
Tyr Pro Leu Gln Thr Pro Glu Ala Val Thr Ala Phe Thr Ser Gly Asp			
100	105	110	

Leu Pro Val Asn Val His Gly Gln Gln Phe Tyr Asp Lys Tyr Ala Ile
 115 120 125
 Lys Phe Thr Asp Asp Gly Phe Trp Lys Val Phe Asp Phe Thr Phe Leu
 130 135 140
 Ala Gly Gly Pro Phe Thr His Thr Asp Trp Glu Ser Gly Ile Arg Lys
 145 150 155 160
 Ala Val Ile Ser Asp Lys Leu Ala Arg Arg Leu Phe Gly Thr Val Glu
 165 170 175
 Ala Val Gly Gln Thr Leu Arg Met Asn Tyr Ala Asp Tyr Arg Ile Cys
 180 185 190
 Gly Val Val Lys Glu Val Ser Arg Ala Ala Glu Ser Ser Tyr Gly Asp
 195 200 205
 Val Trp Ile Pro Tyr Thr Ala Asn Ala Ser Leu Leu Lys Asp Asn Ile
 210 215 220
 Ser Tyr Cys Glu Gly Thr Thr Gly Glu Phe Gln Ala Cys Ile Leu Ser
 225 230 235 240
 Arg Ser Arg Ser Asp Phe Glu Ala Ile Arg Arg Glu Met Leu Lys Leu
 245 250 255
 Gln Ser Thr Phe Asn Ala Ser Leu Thr Gly Thr Lys Leu Asp Tyr Met
 260 265 270
 His Ser Pro Phe Thr Gln Trp Gln Ala Val Leu Gly Thr Asn Gly Phe
 275 280 285
 Ser Glu Gly Thr Val Gly Glu Trp Leu Lys Ser Thr Gly Ala Val Ile
 290 295 300
 Leu Phe Leu Leu Leu Pro Ala Leu Asn Ile Ile Gly Ile Thr Leu
 305 310 315 320
 Thr Gln Phe Arg Lys Arg Arg Ser Glu Ile Gly Val Arg Lys Ala Phe
 325 330 335
 Gly Ala Cys Ser Phe Ser Leu Val Glu Gln Val Val Ile Glu Asn Leu
 340 345 350
 Leu Thr Ser Cys Met Gly Gly Leu Ile Gly Leu Leu Leu Ser Phe Gly
 355 360 365
 Leu Leu Ser Leu Cys Lys Ser Leu Phe Phe Ser Gly Asp Val Ser Leu
 370 375 380
 Thr His Asp Met Leu Ile Gln Pro Leu Thr Phe Val Ala Ala Phe Phe
 385 390 395 400
 Phe Thr Leu Ile Leu Asn Leu Leu Ser Ala Ala Ile Pro Ala Trp Arg
 405 410 415
 Ala Ser Arg Met Pro Ile Thr Glu Ala Leu His Asp Met Glu
 420 425 430

<210> 9106

<211> 417

<212> PRT

<213> B.fragilis

<400> 9106

Leu Tyr Met Asp Arg Glu Ile Pro Lys Glu Val Arg Asn Lys Glu Arg
 1 5 10 15
 Asn Lys Lys Ile Ile Arg Phe Ser Ala Ile Gly Ile Val Gly Ile Ile
 20 25 30
 Gly Ile Ser Val Leu Ile Ser Leu Leu Arg Thr Gly Val Gln Lys Lys
 35 40 45
 Asp Leu Val Phe Ser Thr Val Asp Lys Gly Thr Ile Glu Val Ser Val
 50 55 60
 Ser Ala Ser Gly Lys Val Val Pro Ala Phe Glu Glu Ile Ile Asn Ser
 65 70 75 80
 Pro Ile Asn Thr Arg Ile Val Glu Val Tyr Arg Lys Gly Gly Asp Ser
 85 90 95

Val Asp Val Gly Thr Pro Ile Leu Lys Leu Asp Leu Gln Ser Thr Glu
 100 105 110
 Thr Asp Tyr Lys Lys Leu Leu Asp Glu Glu Glu Met Lys Arg Tyr Lys
 115 120 125
 Leu Asp Gln Ala Lys Val Asn Ser Gln Thr Lys Leu Ser Asp Met Ala
 130 135 140
 Met Gln Ile Lys Val Ser Glu Met Lys Leu Ala Arg Met Lys Val Glu
 145 150 155 160
 Leu Arg Asn Glu Gln Tyr Leu Asp Ser Leu Gly Ala Gly Thr Thr Asp
 165 170 175
 Lys Val Arg Gln Ala Glu Leu Ser Tyr Asn Thr Ser Arg Leu Glu Leu
 180 185 190
 Glu Gln Leu Lys Gln Gln Tyr Thr Asn Glu Lys Gln Ile Ala Ala Ala
 195 200 205
 Asp Leu Lys Val Leu Glu Leu Asp Leu Asn Met Phe Arg Lys Gly Leu
 210 215 220
 Ala Glu Met Lys Arg Thr Leu Asp Asp Ala Gln Ile Arg Ser Pro Arg
 225 230 235 240
 Lys Ala Ile Leu Thr Tyr Ile Asn Asn Gln Ile Gly Ala Gln Ile Pro
 245 250 255
 Gln Gly Gly Gln Val Ala Ile Ile Ser Asp Leu Ser His Phe Lys Val
 260 265 270
 Asp Gly Glu Ile Ala Asp Thr Tyr Gly Asp Arg Val Ala Ala Gly Gly
 275 280 285
 Lys Ala Ile Val Lys Ile Gly Ser Glu Lys Leu Glu Gly Ile Val Ser
 290 295 300
 Ser Val Thr Pro Leu Ser Lys Asn Gly Val Ile Ser Phe Ser Val Gln
 305 310 315 320
 Leu Lys Glu Asp Asn Asn Lys Arg Leu Arg Ser Gly Leu Lys Thr Asp
 325 330 335
 Val Tyr Val Met Asn Ala Val Lys Glu Asp Val Leu Arg Ile Ala Asn
 340 345 350
 Ala Ser Tyr Tyr Val Gly Arg Gly Glu Tyr Asp Leu Phe Val Met Thr
 355 360 365
 Ser Asp Asp Glu Ile Val Lys Arg Lys Ile Gln Leu Gly Asp Ser Asn
 370 375 380
 Phe Glu Phe Val Glu Val Val Ser Gly Leu Asn Pro Gly Asp Lys Val
 385 390 395 400
 Val Val Ser Asp Met Thr Asn Tyr Lys Asn Lys Asn Lys Leu Lys Val
 405 410 415
 Lys

<210> 9107
 <211> 531
 <212> PRT
 <213> B.fragilis

<400> 9107
 Thr Ala Met Cys Ile Gln Val Gln Gln Ile Thr Tyr Ile His Pro Asp
 1 5 10 15
 Lys Glu Val Leu Phe Arg Asn Leu Ser Phe Thr Val Gly Arg Gly Arg
 20 25 30
 Gln Leu Ala Leu Ile Gly Asn Asn Gly Cys Gly Lys Ser Thr Leu Leu
 35 40 45
 Gln Ile Met Ala Gly Lys Leu Gln Pro Ser Ser Gly Asn Val Leu Arg
 50 55 60
 Pro Asp Asp Leu Tyr Tyr Val Pro Gln His Phe Gly Gln Tyr Asp Glu
 65 70 75 80

Met Ser Ile Ala Gln Ala Leu Gly Ile Asp Arg Lys Gln Lys Ala Leu
 85 90 95
 His Glu Ile Leu Asn Gly Asn Ala Ser Ile Asp His Phe Asn Ile Leu
 100 105 110
 Asp Asp Asp Trp Asn Ile Glu Glu Lys Ala Leu Ala Ala Leu Asn Gly
 115 120 125
 Trp Gly Leu Gly Asn Arg Ser Leu Ser Glu Ser Met His Thr Leu Ser
 130 135 140
 Gly Gly Glu Lys Thr Arg Val Phe Leu Ala Gly Leu Glu Leu Gln Glu
 145 150 155 160
 Pro Ser Ala Val Leu Met Asp Glu Pro Thr Asn His Leu Asp Asn Gln
 165 170 175
 Gly Arg Asn Arg Leu Tyr Glu Trp Val Lys Lys Cys Arg Ser Thr Leu
 180 185 190
 Ile Val Val Ser His Asp Arg Thr Leu Leu Asn Arg Phe Pro Glu Thr
 195 200 205
 Cys Glu Leu Ser Arg Asn Ala Leu Val Cys Tyr Gly Gly Asn Tyr Glu
 210 215 220
 Phe Tyr Lys Gln Gln Lys Glu Leu Gln Gln Asn Ala Leu Gln Gln Gln
 225 230 235 240
 Leu Asn Glu Lys Glu Lys Glu Leu Arg Gln Ile Arg Lys Leu Ala Arg
 245 250 255
 Glu Val Ala Glu Arg Lys Glu Lys Gln Asn Ile Arg Ser Glu Lys Ser
 260 265 270
 Val Pro Lys Lys Gly Ile Ser Arg Met Ala Val His Thr Leu Lys Asp
 275 280 285
 Arg Ala Glu Lys Ser Thr Thr Lys Leu Ala Asp Ile His Gln Asn Lys
 290 295 300
 Ser Glu Lys Leu Thr Ser Glu Arg Ser Leu Ile Arg Asn Arg Leu Ala
 305 310 315 320
 Glu Asn Thr Leu Leu Lys Thr Asp Phe His Ala Ser Ala Leu His Thr
 325 330 335
 Gly Lys Thr Leu Leu Ala Ala His Lys Ile Asn Phe Ser Tyr Gly Asn
 340 345 350
 Ser Pro Leu Trp Glu Val Pro Leu Cys Phe Gln Leu Lys Ser Gly Asp
 355 360 365
 Arg Ile Arg Ile Glu Gly Asp Asn Gly Ser Gly Lys Thr Thr Leu Leu
 370 375 380
 Lys Leu Val Thr Gly Asp Leu Leu Pro Thr Ser Gly Thr Leu Glu Arg
 385 390 395 400
 Ala Gly Phe Ser Tyr Val Tyr Leu Asn Gln Glu Tyr Ser Ile Ile Cys
 405 410 415
 Asn Gln Leu Thr Val Leu Gln Gln Ala Glu Ser Phe Asn Val Arg Ala
 420 425 430
 Leu Pro Glu His Glu Ile Lys Ile Arg Leu Asn Arg Phe Leu Phe Pro
 435 440 445
 Ala Thr Ser Trp Asp Gln Pro Cys Ile Gln Leu Ser Gly Gly Glu Lys
 450 455 460
 Met Arg Leu Ala Phe Cys Cys Leu Met Ile Ser Asn Asn Thr Pro Asp
 465 470 475 480
 Leu Phe Ile Leu Asp Glu Pro Thr Asn Asn Leu Asp Ile Gln Ser Ile
 485 490 495
 Glu Ile Ile Thr Ala Thr Val Arg Asn Tyr Thr Gly Ser Val Leu Leu
 500 505 510
 Val Ser His Asp Glu Tyr Phe Ala Lys Glu Thr Gly Ile Arg Lys Ser
 515 520 525
 Ile Phe Leu
 530

<210> 9108

<211> 112

<212> PRT

<213> B.fragilis

<400> 9108

Leu	Met	Ala	Gly	Leu	Pro	Glu	Leu	Gln	Lys	Ser	Leu	Ser	Leu	Glu	Asp
1				5				10						15	
Thr	Trp	Lys	Glu	Tyr	Lys	Arg	Glu	Arg	Arg	Ile	Glu	Leu	Val	Ser	Glu
		20				25							30		
Gly	Asp	Arg	Tyr	Trp	Ser	Val	Leu	Arg	Trp	Gly	Lys	Ala	Asp	Gly	Leu
	35					40					45				
Glu	Val	Val	Pro	Glu	Leu	Ile	Val	Glu	Gln	Lys	Phe	Met	Lys	Ile	Ala
	50				55				60						
Pro	Asp	Gly	Lys	Ser	Phe	Glu	Ile	Leu	Pro	Leu	Pro	Ile	Tyr	Gln	Ser
	65				70				75				80		
Asp	Asn	Glu	Arg	Thr	Phe	Thr	Lys	Lys	His	Tyr	Leu	Phe	Pro	Val	Pro
		85					90						95		
Gln	Gly	Gln	Arg	Asp	Leu	Asn	Pro	Asn	Leu	Asp	Gln	Asn	Glu	Gly	Trp
		100					105						110		

<210> 9109

<211> 63

<212> PRT

<213> B.fragilis

<400> 9109

Gly	Leu	Phe	Ile	Val	Leu	Leu	Leu	Ile	Ser	Leu	Asn	Asn	Ile	Ile	
1					5			10					15		
Thr	Asp	Glu	Gly	Lys	Tyr	Ser	Gln	Ile	Ser	Ser	Phe	Ile	Ile	Ser	Ile
		20				25		30							
Ser	Asn	Pro	Asn	Asn	Leu	Asn	Arg	Tyr	Ser	Tyr	Phe	Thr	Lys	Ser	Val
	35					40					45				
Ile	Phe	Ile	Val	His	Ser	Leu	Phe	Val	Pro	Ser	Ala	Ala	Val	Thr	
	50					55				60					

<210> 9110

<211> 194

<212> PRT

<213> B.fragilis

<400> 9110

Ile	Asp	Gly	Phe	Phe	Ser	Pro	Leu	Val	Lys	Thr	Tyr	Thr	Asp	Val	Asn
1				5				10					15		
Gly	Asp	Gly	Lys	Ile	Asp	Gly	Glu	Asp	Gln	Val	Arg	Ile	Gly	Lys	Pro
		20				25			30						
Thr	Met	Pro	His	Phe	Thr	Tyr	Ala	Phe	Asp	Phe	Ser	Leu	Gly	Tyr	Glu
	35				40						45				
Gly	Phe	Thr	Leu	Ser	Gly	Leu	Leu	Tyr	Gly	Thr	Gly	Glu	Arg	Tyr	Met
	50					55			60						
Thr	Phe	Gly	Asn	Arg	Tyr	Gln	Ser	Gly	Glu	Gly	Lys	Tyr	Leu	Tyr	Tyr
	65				70				75			80			
Glu	Asn	Gln	Leu	Asn	Tyr	Trp	Arg	Pro	Asp	Asn	Thr	Gly	Ala	Asp	Phe
			85				90				95				
Pro	Arg	Ile	Ser	Ile	Ser	Ser	Gly	Val	Asn	Gly	Asn	Asn	Lys	Ala	
				100			105					110			
Gly	Ser	Thr	Phe	Trp	Met	Arg	Asn	Ala	Ser	Tyr	Leu	Arg	Leu	Lys	Asp
			115			120					125				
Leu	Gln	Leu	Ser	Tyr	Asp	Phe	Lys	Tyr	Lys	Tyr	Leu	Lys	Lys	Cys	Asp

130	135	140
Trp Leu Gln Thr Cys Arg Val Asn Leu Ser Gly Ser Asn Leu Phe Thr		
145	150	155
Ile Ser Gly Val Ser Lys Phe Phe Asp Pro Glu Thr Ser Ser Thr Ser		
165	170	175
Gly Asp Gly Tyr Pro Val Gln Arg Val Tyr Ser Ile Gly Val Thr Ile		
180	185	190
Gly Phe		

<210> 9111

<211> 160

<212> PRT

<213> B.fragilis

<400> 9111

Leu Leu Lys Leu His Ile Met Ile Lys Leu Tyr Leu Lys Gln Ser Trp		
1	5	10
Met Leu Ile Arg Gln Asn Lys Leu Phe Ser Ser Leu Tyr Val Leu Gly		
20	25	30
Thr Gly Leu Ala Ile Ala Met Thr Met Ile Ile Ala Ile Val Tyr Tyr		
35	40	45
Ile Lys Ile Ala Pro Ile Tyr Pro Glu Val Asn Arg Ser Leu Thr Met		
50	55	60
Arg Met Lys Gly Val Ser Ala Met His Val Lys Gly Gly Gly Asn Ser		
65	70	75
Tyr Ser Cys Ser Tyr Glu Met Leu Lys Asp Trp Phe Tyr Pro Leu Gln		
85	90	95
Ser Ala Glu Leu Val Thr Ala Val Asn Glu His Phe Leu Thr Arg Lys		
100	105	110
Gly Ser Tyr Ile Gln Pro Ala Gly Gly Glu Gln Ile Pro Ala Leu		
115	120	125
Val Lys Tyr Thr Asp Pro Asn Phe Phe Arg Leu Phe Glu Cys Glu Leu		
130	135	140
Leu Asp Gly Ser Ser Pro Arg Gly Trp Lys Asp Pro Arg Gly Cys Tyr		
145	150	155
		160

<210> 9112

<211> 155

<212> PRT

<213> B.fragilis

<400> 9112

Lys Val Leu Leu Lys Lys Cys Thr Ala Ser Ser Asn Pro Ala Val		
1	5	10
Lys Thr Ile Trp Met Leu Pro Ile Asp Ala Pro Trp Pro Met Gly Gly		
20	25	30
Glu Ile Asp Ile Met Glu Arg Leu Asn His Asp Thr Ile Ala Tyr Gln		
35	40	45
Thr Ile His Thr Asn Tyr Thr Tyr Asn Leu Gly Ile Lys Asp Asn Pro		
50	55	60
Leu Ser His Ser Val Gly Ala Ile Asn Pro Asp Asp Tyr Asn Val Tyr		
65	70	75
Ser Val Glu Met Tyr Pro Asp Ser Ile Ala Phe Tyr Ile Asn Asp Thr		
85	90	95
His Thr Phe Thr Tyr Pro Arg Ile Glu Thr Asp Lys Glu Gly Gln Phe		
100	105	110
Pro Phe Asp Gln Pro Phe Tyr Leu Leu Ile Asp Met Gln Leu Gly Gly		
115	120	125

Ser Trp Val Gly Ala Val Asp Pro Lys Glu Leu Pro Val Glu Met Tyr
 130 135 140
 Val Asp Trp Val Arg Phe Tyr Gln Lys Glu Lys
 145 150 155

<210> 9113

<211> 71

<212> PRT

<213> B.fragilis

<400> 9113

Thr Ile Arg Pro Ile Leu Leu Tyr Leu His Lys Leu Lys Lys Arg
 1 5 10 15
 Asp Asp Met Lys Tyr Ile Cys Thr Val Cys Asp Phe Ile Tyr Asp Pro
 20 25 30
 Glu Ile Gly Asp Pro Glu Gly Ile Glu Pro Gly Thr Gln Phe Glu
 35 40 45
 Asp Ile Pro Asp Asp Trp Val Cys Pro Leu Cys Gly Val Gly Lys Glu
 50 55 60
 Asp Phe Glu Pro Tyr Asn Gly
 65 70

<210> 9114

<211> 423
 <212> PRT
 <213> B.fragilis

<400> 9114

Ala Ala Gly Thr Cys Leu Gly Tyr Gln Ile Ile Leu Leu Ile Ala Asp
 1 5 10 15
 Ala Ser Glu Val Phe Val Ser Leu His Phe Ile Val Ile Asp Lys Val
 20 25 30
 Gly Glu Leu Leu Leu Ala Leu Pro Glu Ile Tyr Gln Phe Gly Asn Lys
 35 40 45
 Val Asp Ala Arg Leu His Gly Met Tyr Lys Thr Arg Leu Gln Arg Asn
 50 55 60
 Gly Gln Thr Leu Arg Leu Thr Ala Glu Leu Arg Ala Leu Gly Leu Ser
 65 70 75 80
 Val Ile Ala His Pro Glu Phe Thr Gln Ile Leu His Val Met His Val
 85 90 95
 Glu Pro His His Val Ser Gln Pro Val Arg Ile Glu Gln Ser Met Cys
 100 105 110
 Thr Leu Ala His Ser Val Phe Gly Ile Ser Leu His Gln Pro Glu Ser
 115 120 125
 Phe Gln Thr Phe Asp His His Thr Cys Arg Gln Val Val Tyr Ile His
 130 135 140
 Ile Arg Asn Thr Arg Thr Lys Cys Phe His Arg Leu Gln Val His Gly
 145 150 155 160
 Val Leu Tyr Leu Val Asn Leu Ala Leu Ala Pro Gly Lys Leu Phe Ile
 165 170 175
 Gly Arg Asn Gly Arg Arg His Ile Ala Cys Ile Thr His Leu Arg Phe
 180 185 190
 Cys Ala Gly Ile Asp Gln Glu Gln Ile Ala Arg Leu Asp Asp Ile Ala
 195 200 205
 Met Ile Met Val Val Glu Arg Leu Ser Val His Arg Ser Asp Gly Ser
 210 215 220
 Lys Arg Lys Val Thr Pro Cys Gly Met Arg His Gly Phe His Gly Cys
 225 230 235 240
 Arg Tyr Phe Pro Leu Ala His Pro Gly Thr Gln Asp Leu His Gly Arg

245	250	255
Asn Val His Ile Arg Arg Asn Ile Ala Gly Leu Leu Asp Phe Asp Asn		
260	265	270
Leu Leu Gly Arg Leu Val Val Thr Leu Arg Asp His Arg Thr Asp Lys		
275	280	285
Arg His Arg Thr Leu Leu Thr Arg Gly Arg His Ser Gln Pro Val His		
290	295	300
Gln Leu Gln Phe Met Leu Cys Thr Val Gly Arg Gln Val Met Asp Gly		
305	310	315
Leu Ser Leu Leu Tyr Arg Leu Val Gln Ile Ala His Asn Val Gly Arg		
325	330	335
Arg His Gly Asp Val His Ser His Pro Leu Thr Leu Phe Leu Gln Cys		
340	345	350
Gly Leu Ser Pro His Pro Tyr Asp Met Ile Asp Gly Gln Phe Ile Thr		
355	360	365
Glu Tyr Asn Phe Leu Ile Phe Ile Asn Val Asp Tyr Ser Arg Lys Pro		
370	375	380
Gly Lys Arg Lys Ala Glu Val Val Glu Lys Gly Arg Ile Leu Thr Ile		
385	390	395
Ala Glu Arg Ile Val Leu Val Val Gln Ser Thr Leu Val Val Ser Gln		
405	410	415
Lys Gln Gln Tyr Ser Gly Ala		
420		

<210> 9115

<211> 66

<212> PRT

<213> B.fragilis

<400> 9115

Ala Leu Ser Ala Ser Asn Trp Gly Thr Trp Thr Ile Thr Phe Phe Ser		
1	5	10
Val Met Ser Val Glu Val Val Leu Leu Pro Phe Val Pro Gln Glu Lys		
20	25	30
Ala Glu Asn Arg Met Lys Ala Asp Ser Met Asn Ile Glu Phe Leu Phe		
35	40	45
Ile Ile Met Leu Leu Glu Phe Lys Ala Ser Lys Leu Met Ile Phe Thr		
50	55	60
Val Gly		
65		

<210> 9116

<211> 70

<212> PRT

<213> B.fragilis

<400> 9116

Tyr Lys Glu Ala Ser Lys Asn Gln Arg Gln Gly Glu Tyr Ile His Leu		
1	5	10
Ile Ala Tyr Tyr Thr Phe Arg Arg His Ser Asp Thr Ile His Pro Asn		
20	25	30
Leu Leu Thr Arg Thr Lys Thr Gln Ile Ile Lys Gln Glu Glu Asn		
35	40	45
Ala Tyr Lys Thr His Ile Thr Cys Asn Lys Met Gln His Arg Pro Lys		
50	55	60
Ile Ser Asn Lys Tyr Ala		
65	70	

<210> 9117

<211> 262
 <212> PRT
 <213> B.fragilis

<400> 9117

Met	Lys	Thr	Ala	Ile	Lys	Leu	Ile	Leu	Ile	Tyr	Leu	Gly	Ile	Gln	Leu
1					5					10					15
Ile	Cys	Gly	Gly	Leu	Ile	Gly	Ile	Pro	Phe	Thr	Ile	Ile	Ala	Arg	Met
					20				25					30	
Asn	Gly	Gly	Ser	Val	Asp	Ala	Thr	Arg	Val	Ser	Glu	Leu	Thr	Leu	Ala
					35				40					45	
Pro	Ser	Met	Leu	Leu	Ser	Met	Ala	Val	Met	Phe	Phe	Tyr	Leu	Trp	Lys
					50				55			60			
Ala	His	Tyr	Ile	Pro	Lys	Asp	Lys	Thr	Ser	Trp	Ser	Phe	Ile	Ser	Phe
					65				70			75			80
Pro	Phe	Leu	Ile	Ile	Thr	Phe	Leu	Ile	Gly	Leu	Ser	Met	Thr	Val	Leu
					85				90					95	
Met	Asp	Met	Leu	Thr	Ala	Val	Leu	Ser	Trp	Val	Pro	Asp	Ile	Leu	Glu
					100				105					110	
Gln	Gln	Phe	Asp	Ala	Leu	Gln	Ser	Gly	Trp	Leu	Gly	Ile	Val	Ala	Ile
					115				120					125	
Thr	Leu	Leu	Gly	Pro	Ile	Leu	Glu	Glu	Leu	Leu	Phe	Arg	Gly	Gly	Ala
					130				135					140	
Thr	Lys	Ala	Leu	Leu	Glu	Arg	Tyr	Ser	Pro	Arg	Lys	Ala	Ile	Phe	Leu
					145				150					160	
Ser	Ala	Leu	Leu	Phe	Gly	Val	Phe	His	Leu	Asn	Pro	Ala	Gln	Ile	Val
					165				170					175	
Ala	Ala	Phe	Phe	Gly	Gly	Leu	Leu	Leu	Ala	Trp	Val	Tyr	Tyr	Arg	Thr
					180				185					190	
Arg	Ser	Leu	Ile	Pro	Cys	Ile	Leu	Ile	His	Ile	Val	Asn	Asn	Ser	Ile
					195				200					205	
Ser	Val	Met	Leu	Ser	Leu	Thr	Tyr	Pro	Asp	Ala	Asp	Thr	Ile	Arg	Asp
					210				215					220	
Val	Thr	Gly	Thr	Thr	Pro	Tyr	Tyr	Leu	Leu	Ile	Ala	Val	Ala	Ala	Met
					225				230					235	
Val	Phe	Val	Gly	Cys	Phe	Leu	Arg	Ile	Lys	Gln	Val	Thr	Val	Pro	Gly
					245				250					255	
Thr	Trp	Arg	Lys	Asp	Glu										
					260										

<210> 9118
 <211> 140
 <212> PRT
 <213> B.fragilis

<400> 9118

Arg	Asn	His	Gln	His	Gln	Pro	Gln	Gln	Pro	Gln	Ser	Ala	Gly	Ala	Ala
1					5				10					15	
His	Glu	Pro	Arg	Leu	His	Gly	Asp	Gly	Arg	Gly	Thr	Tyr	Glu	Glu	Gln
					20				25					30	
Gly	Gln	Pro	Ile	Glu	Arg	Ile	Glu	Arg	Gly	His	Asp	Val	Pro	Gln	Ala
					35				40					45	
Glu	Asp	Gly	Arg	Arg	Thr	Arg	Leu	His	Arg	Arg	Arg	Glu	Ala	Thr	Pro
					50				55					60	
Glu	Tyr	Ile	Asp	Asp	His	His	Ala	Gly	His	His	Arg	Pro	Ala	Thr	Pro
					65				70					75	
Leu	Leu	Pro	Arg	Arg	Arg	Arg	Val	Ile	Ala	Pro	Pro	Asp	Asp	Ser	Glu
					85				90					95	
Gly	Arg	Gly	Gly	Thr	His	Arg	Ala	Gly	His	Leu	Asp	His	Leu	Thr	Arg

100	105	110
Gln Gln Gln Gln Ile Arg Ala Asn Glu Leu Arg His Leu Ser Pro Glu		
115	120	125
Val Leu Leu Gln Arg Arg Ile His His Arg Arg Arg		
130	135	140

<210> 9119

<211> 217

<212> PRT

<213> B.fragilis

<400> 9119

Ile Ile Ser His Asn Met Lys Arg Arg Leu Asn Ile Leu Cys Leu Leu			
1	5	10	15
Val Phe Leu Val Phe Cys Tyr Ser Val Phe Asn Met Gly Arg Asp Phe			
20	25	30	
Gly His Gly Phe Ser Glu Gly Met Lys Ile Ser His Ser Gly Asn Gln			
35	40	45	
Ser Val Glu Gln Ala Ile Asn Phe Arg Ile Ala Thr Leu Met Pro Lys			
50	55	60	
Asp Phe Ser Ser Phe Lys Asp Ser Val Tyr Asn Glu Lys Thr Gly Ser			
65	70	75	80
Tyr Val Pro Val Ala Tyr Thr Gln Met Val Thr Asn Val Lys Val Asp			
85	90	95	
Arg Ser Thr Trp Met Met Val Ala Gln Val Ile Ser Gly Leu Leu Ala			
100	105	110	
Val Phe Ala Ile Ile Ala Ser Thr Val Leu Phe Ile Gln Leu Ile Val			
115	120	125	
Ala Ile Asn Lys Ser Asp Ile Phe Asn Trp Lys Asn Val Arg Arg Leu			
130	135	140	
Arg Trp Leu Gly Val Ala Leu Leu Leu Asn Phe Ile Ser Glu Ala Val			
145	150	155	160
Pro Ala Leu Met Asn Asp Tyr Glu Leu Ser Ser Val Phe Ser Leu Ser			
165	170	175	
Gly Tyr Ser Met Glu Thr Ser Ile Asp Ser Val Met Leu Val Ile Leu			
180	185	190	
Gly Leu Val Ser Leu Ile Val Gly Glu Val Phe Ala Ile Gly Leu Lys			
195	200	205	
Met Lys Glu Glu Gln Asp Leu Thr Ile			
210	215		

<210> 9120

<211> 304

<212> PRT

<213> B.fragilis

<400> 9120

Met Asn Leu Gln Phe Pro Pro Phe Leu His Glu Gly Asp Lys Val Ala			
1	5	10	15
Ile Val Ser Pro Ser Ser Lys Ile Asp Ser Ile Phe Leu Lys Gly Ala			
20	25	30	
Lys Thr Arg Leu Ser Ser Trp Gly Leu Thr Pro Val Met Gly Asp His			
35	40	45	
Val Arg Ser Ser Trp Gly Ser Tyr Ala Gly Ala Thr His Gln Arg Leu			
50	55	60	
Lys Asp Phe Gln Val Ala Met Asp Asp Glu Glu Ile Lys Ala Ile Leu			
65	70	75	80
Cys Ser Arg Gly Gly Tyr Gly Ala Val His Leu Leu Asp Lys Leu Asp			
85	90	95	

Phe Thr Arg Phe Arg Asn His Pro Lys Trp Leu Ile Gly Phe Ser Asp
 100 105 110
 Ile Thr Ala Leu His Asn Leu Phe Gln Tyr Asn Gly Phe Ala Ser Leu
 115 120 125
 His Ala Pro Met Ala Arg His Leu Ala Val Thr Gly Glu Glu Asp Pro
 130 135 140
 Cys Ser Leu Tyr Leu Arg Asp Ile Leu Phe Gly Lys Leu Pro Gly Tyr
 145 150 155 160
 Lys Cys His Arg His Lys Leu Asn His Leu Gly Gln Ala Lys Gly Ile
 165 170 175
 Leu Arg Gly Gly Asn Met Ala Val Phe His Gly Leu Arg Gly Thr Pro
 180 185 190
 Tyr Asp Ile Pro Pro Glu Gly Thr Ile Leu Phe Ile Glu Asp Val Gly
 195 200 205
 Glu Arg Pro Tyr Ala Ile Glu Arg Met Met Tyr Asn Leu Lys Leu Gly
 210 215 220
 Gly Val Leu Glu Lys Leu Ser Gly Leu Ile Ile Gly Gln Phe Thr Glu
 225 230 235 240
 Tyr Lys Glu Asp Tyr Ser Leu Lys Lys Asp Leu Tyr Ser Thr Leu Asp
 245 250 255
 Ala Leu Val Lys Glu Tyr Asp Phe Pro Ile Cys Tyr Asp Phe Pro Val
 260 265 270
 Gly His Val Thr Glu Asn Leu Pro Leu Ile Asn Gly Ala Glu Val Glu
 275 280 285
 Phe Val Ser Gly Lys Lys Gly Val Glu Leu Leu Ile Asn Pro Pro Ile
 290 295 300

<210> 9121

<211> 64

<212> PRT

<213> B.fragilis

<400> 9121

Phe Asn Pro His Ser Ser Phe Pro Arg Asn Asn Ser Thr Pro Glu Pro
 1 5 10 15
 Asn Val Phe Phe Ser Arg Ala Leu Arg Cys Val Tyr Val Ser Leu Leu
 20 25 30
 Asn Ile Met Val Tyr Ile Lys Val Met Met Ala Lys Ile Gly Thr Lys
 35 40 45
 Asp Glu Leu Thr Lys Glu Ile Lys Gln Ile Arg Phe Thr Ala Glu Gln
 50 55 60

<210> 9122

<211> 610

<212> PRT

<213> B.fragilis

<400> 9122

Ser Gly Phe Lys His Ile Leu Ser Arg Tyr Phe Phe Arg Gly Glu Thr
 1 5 10 15
 Leu Ser Asp Gly Lys Leu Gln Gln His Phe Ser Phe Gly Ile Glu Tyr
 20 25 30
 Phe His Leu Lys Tyr Val Leu Leu Phe Asn His His Tyr Arg Cys
 35 40 45
 Thr Phe His Ala Ile Thr Ala Thr Asp Asn His Arg Glu Val Ile Ala
 50 55 60
 Lys Ala Ala Phe Gly Met Ile Gly Ile Phe Met Cys Met Arg Val Lys
 65 70 75 80
 Ala Asp Ile Glu Arg Cys Phe Leu Gln Lys Phe Thr Pro Lys Pro Gly

85	90	95
Thr Gln Ile Leu Val Val Val Ser Val Lys Arg Asn Val Met Asn Gln		
100	105	110
Asn Pro Leu Ser Gly Phe Leu Lys Phe Phe Gly Ser Glu Leu Thr Leu		
115	120	125
Gln Lys Ser Tyr Leu Val Ile Thr Gln Leu Arg Lys Val Val Glu Ser		
130	135	140
Val Val Tyr Pro Met Ile Ile Arg Leu Ile Phe Thr Ala Ile Glu His		
145	150	155
Tyr Asp Thr Gly Ile Ser Pro Val Glu Gly Ala Val Ser Leu Ile Ala		
165	170	175
Tyr Ile Ile Glu Gln Ala Val Gln Ala Tyr Arg Ile Gly Ile Pro Asp		
180	185	190
Leu Val Ile Thr Ala His Lys Glu Asp Arg Tyr Ala Ile Thr Leu His		
195	200	205
Ala Phe Gly Gln Phe Ala Asp Lys Gly Cys Cys Leu Ile Val Ile Gly		
210	215	220
Gly Val Val Tyr Thr Ile Ala Val Glu His Tyr Lys Ile Ile Val Asn		
225	230	235
Pro Leu Tyr Leu Phe Ala Gln Cys Leu Lys Arg Leu Arg Leu Phe Met		
245	250	255
Gln Val Val Glu His His Gly Arg Lys Thr Val Ile Thr Gly Cys Gly		
260	265	270
Gln Arg Glu Leu Pro Glu Phe Cys Thr Gly Cys Ile Ala Lys His Leu		
275	280	285
Phe Val Gly Leu Val Lys Gln Asp Leu Leu Arg Thr Gly Thr Ile Ile		
290	295	300
Ile Phe Leu Ser Gly Leu Gln Thr Ile Glu Ala Asn Leu Val Lys Ser		
305	310	315
Ile Ala Thr Asn Asn Leu Thr Ile Gln Lys Gly Thr Cys Ala Leu Gln		
325	330	335
Ile Gly Arg Val Arg Ala Val Leu His Pro Ala Ile Gly Arg His Val		
340	345	350
Gly Leu Pro His His Arg Asp Ser Thr Ser Tyr Gly Ile Leu Lys Ile		
355	360	365
Gly Phe Gly Thr Ala Asn Pro Ile Leu Gly Tyr Arg His Pro Tyr Phe		
370	375	380
Tyr His Lys Arg Thr Met Ile Gly Arg Gln Arg Leu Ile Asp His Arg		
385	390	395
Gly Arg Val Asp Asn Lys Ser Arg Arg Phe Leu Phe Gln Ser Asn Gln		
405	410	415
Val Val Glu Arg Leu Leu Arg Phe Gly Ser Arg Ile Ser Glu Leu Leu		
420	425	430
Arg Val Gly Lys Tyr Leu Glu Cys Thr Leu Gln Ile Phe Asp Lys Ala		
435	440	445
Gly Val Gly Ile Arg Val Glu Val Thr Gly Lys Glu Glu Arg Phe Pro		
450	455	460
Gly Ile Gly Cys Asn Gly Leu Gln Asp Phe Glu Arg Leu His Pro Ile		
465	470	475
Leu Phe Gly Gln Arg Lys Val Arg Thr Arg Lys Asp Ile Leu Arg Glu		
485	490	495
Leu Gly Asp Lys Gln Arg Ala Cys Leu Phe Thr Ser Arg Lys Gly Glu		
500	505	510
Gly Leu His Thr Glu Arg Ser Leu Phe Arg Lys Tyr Thr Asp Ala Ile		
515	520	525
Leu Ser Ser Val Ile Ile Asp Gly Arg Arg Lys Ala Gly Met Gln Leu		
530	535	540
Ser Ala Phe Arg Gln Phe Leu Glu Asn Ile Gly Pro Val Ala Pro Gly		
545	550	555
		560

Ser His Ala Val Gln Phe Leu Asp Gly Asn Asp Val Arg Thr Gly Val
 565 570 575
 Val Asp His Ile Gly Tyr Thr Leu Ile Ile Ala Tyr Thr Val His Ala
 580 585 590
 Ile Gly Val Thr Asp Val Val Gly His Gln Ala Gln His Ile Phe Ser
 595 600 605
 Leu Gly
 610

<210> 9123

<211> 646

<212> PRT

<213> B.fragilis

<400> 9123

Thr Met Arg Lys Leu Lys Asn Val Leu Arg Ala Ser Ser Cys Cys Ala
 1 5 10 15
 Phe Ser Ile Leu Met Cys Leu Pro Ala Ala Gly Gln Asn Ala Trp Ser
 20 25 30
 Glu Ala Asp Cys Val Thr Leu Leu Asp Ser Thr Ser Val Thr Val Gln
 35 40 45
 Pro Asn Gly Ser Gly Ser Phe Ala Val Tyr Lys Ser Phe Lys Val Gln
 50 55 60
 Thr Pro Lys Gly Ala Val Asn Asn His Val Ile Lys Tyr Asp Tyr Asp
 65 70 75 80
 Pro Leu Thr Ala Phe Ala Arg Phe Lys Gln Val Thr Val Gln Arg Ala
 85 90 95
 Asn Gly Glu Thr Met Gln Val Asp Val Thr Lys Thr Cys Asp Tyr Ala
 100 105 110
 Ala Pro Ala Arg Ala Ile Tyr Trp Gly Ala Arg Gln Ile Met Leu Glu
 115 120 125
 Leu Gly Arg Leu Glu Pro Gly Asp Val Val Ser Tyr Glu Ile Ser Lys
 130 135 140
 Lys Gly Phe Thr Tyr Ala Leu Leu Ala Gly Ala Glu Asp Asp Asp Ala
 145 150 155 160
 Arg Phe Ile Pro Pro Met Arg Gly Gln Phe Tyr Asp Ile Val Pro Phe
 165 170 175
 Trp Val Asn Glu Pro Thr Arg Arg Lys Val Tyr Val Val Ser Met Pro
 180 185 190
 Met Glu Lys Glu Leu Gln Phe Gln Phe Tyr Asn Gly Val Cys Thr Ser
 195 200 205
 Ser Met Arg Tyr Glu Asp Gly Arg Lys Val Tyr Thr Phe Ala Val Asp
 210 215 220
 Glu Val Leu Pro Phe Arg Lys Glu Pro Asn Met Val Asp Leu Phe Asp
 225 230 235 240
 Glu Ala Pro Lys Leu Met Met Ser Ser Thr Pro Lys Trp Glu Asp Lys
 245 250 255
 Ser Leu Trp Phe His Asp Leu Asn Glu Ala Tyr Gly Ser Phe Ala Ala
 260 265 270
 Leu Pro Glu Ala Gln Lys Lys Val Asp Glu Leu Ile Lys Gly Lys Lys
 275 280 285
 Thr Glu Met Glu Arg Ile Ala Val Leu Thr His Trp Val Ala Asp Asn
 290 295 300
 Ile Arg Tyr Ala Gly Ile Thr Met Gly Glu Gly Glu Gly Phe Thr Leu
 305 310 315 320
 His Asn Thr Lys Met Asn Tyr Thr Asp Arg Cys Gly Val Cys Lys Asp
 325 330 335
 Ile Ala Gly Thr Leu Ile Ser Phe Leu Arg Met Ala Gly Phe Glu Ala
 340 345 350

Tyr Pro Ala Met Thr Met Ala Gly Ser Arg Ile Glu Ser Ile Pro Ala
 355 360 365
 Asp His Phe Asn His Cys Val Ala Val Val Lys Leu Ala Asn Gly Thr
 370 375 380
 Tyr Met Pro Leu Asp Pro Thr Trp Val Pro Phe Cys Arg Glu Leu Trp
 385 390 395 400
 Ser Ser Ala Glu Gln Gln Gln Asn Tyr Leu Pro Gly Ile Pro Gly Gly
 405 410 415
 Ser Asp Leu Cys Leu Thr Pro Val Ser Ala Pro Glu Asn His Tyr Val
 420 425 430
 Arg Ile Thr Ala Asp Asn Lys Ile Asp Ala Lys Gly Thr Leu Lys Gly
 435 440 445
 Ser Phe Thr Ile Thr Ala Glu Gly Gln Ser Asp Ser Ser Ile Arg Arg
 450 455 460
 Ile Phe Thr Gln Gly Trp Gln Thr Glu Trp Gln Ser Thr Met Glu Ser
 465 470 475 480
 Gln Leu Leu Asn Val Ser Pro Lys Ala Arg Met Leu Gly Val Asp Tyr
 485 490 495
 Gly Lys Ala Pro Lys Asp Tyr Gln Ala Gly Pro Ile Arg Ile Thr Phe
 500 505 510
 Arg Tyr Glu Ile Pro Asp Tyr Ala Leu Val Gly Asp Arg Glu Leu Leu
 515 520 525
 Leu Lys Pro Met Val Met Asn Asn Leu Tyr Thr Ser Val Leu Ser Phe
 530 535 540
 Leu Arg Ile Asp Thr Gly Leu Glu Thr Arg Gln Tyr Gly Phe Arg Asp
 545 550 555 560
 Ala Cys Ser Arg Leu Val Glu Leu Asp Glu Thr Ile Ala Leu Pro Arg
 565 570 575
 Gly Tyr Arg Leu Ala Gly Glu Pro Arg Ser Glu Gln Lys Ala Ala Pro
 580 585 590
 Ala Ala Asp Phe Glu Gly Ser Leu Gln Gln Val Gly Asn Lys Leu Val
 595 600 605
 Leu Lys Gln Lys Leu Ala Leu Lys Lys Arg Ile Tyr Arg Ala Ala Asp
 610 615 620
 Trp Glu Gly Phe Arg Ala Ala Val Asn Ala Tyr Lys Ser Phe Ala Asp
 625 630 635 640
 Tyr Leu Ile Val Lys Leu
 645

<210> 9124

<211> 188

<212> PRT

<213> B.fragilis

<400> 9124

Ser Val Val Lys Leu Ile His Ser Ile Ser Leu Ser Ile Asn Leu Lys
 1 5 10 15
 Ser Arg Ile Asn Met Thr Pro Ile Val Ser Ile Ile Met Gly Ser Thr
 20 25 30
 Ser Asp Leu Pro Val Met Glu Lys Ala Ala Gln Leu Leu Asn Asp Leu
 35 40 45
 His Val Pro Phe Glu Met Asn Ala Leu Ser Ala His Arg Thr Pro Glu
 50 55 60
 Ala Val Glu Glu Phe Ala Lys Asn Ala Arg Ser Arg Gly Ile Lys Val
 65 70 75 80
 Ile Ile Ala Ala Ala Gly Met Ala Ala His Leu Pro Gly Val Ile Ala
 85 90 95
 Ala Ser Thr Pro Leu Pro Val Ile Gly Val Pro Ile Lys Ser Ser Leu
 100 105 110

Asp Gly Met Asp Ala Leu Leu Ala Ile Val Gln Met Pro Pro Gly Ile
 115 120 125
 Pro Val Ala Thr Val Gly Ile Asn Gly Ala Leu Asn Ala Ala Ile Leu
 130 135 140
 Ala Val Gln Met Leu Ser Leu Glu Asp Lys Glu Leu Glu Ala Lys Phe
 145 150 155 160
 Ile Ala Tyr Lys Glu Gly Leu Lys Lys Ile Val Lys Ala Asn Glu
 165 170 175
 Glu Leu Lys Glu Ile Lys Tyr Glu Phe Lys Thr Asn
 180 185

<210> 9125

<211> 157

<212> PRT

<213> B.fragilis

<400> 9125

Ser Tyr Lys Asn Met Ser Gly Leu Tyr Tyr Asn Leu Ala Leu Arg Asn
 1 5 10 15
 Ser Asp Leu Arg Asp Lys Asp Ser Glu Lys Leu Tyr Tyr Cys Val Leu
 20 25 30
 Lys Asn Arg Gly Val Leu Asp Gln Asp Thr Phe Val Asn Tyr Leu Ser
 35 40 45
 Gln Ile Thr Gly Ile Lys Glu Ala Ile Cys Leu Gly Val Leu Ser Lys
 50 55 60
 Leu Gly Ala Ala Val Ile Asn Tyr Leu Lys Asp Gly Gln Ser Val Asp
 65 70 75 80
 Ile Pro His Leu Gly Thr Phe Asn Leu Thr Ala Ser Ser Thr Gly Val
 85 90 95
 Lys Thr Leu Asp Glu Ala Lys Ala Ser Gln Ile Lys Ala Ile Asn Leu
 100 105 110
 Arg Phe Ser Ala Lys Glu Glu Thr Asp Leu Val Leu Ser Arg Cys Ala
 115 120 125
 Leu Thr Arg Ser Val Ser Leu Thr Asn Thr Asn Asp Val Ile Lys Glu
 130 135 140
 Lys Asp Pro Ser Gly Glu Ile Val Asp Asp Pro Thr Ala
 145 150 155

<210> 9126

<211> 214

<212> PRT

<213> B.fragilis

<400> 9126

Ala Phe Lys Asn Arg Ile Glu Met Lys Arg Lys Gly Ile Lys Asn Leu
 1 5 10 15
 Ile Phe Asp Phe Gly Gly Val Leu Ile Asn Leu Asp Arg Gln Arg Cys
 20 25 30
 Ile Glu Asn Phe Arg Lys Leu Gly Leu Glu Lys Val Asp Glu Leu Leu
 35 40 45
 Gly Met Tyr Ser Gln Gln Gly Ile Phe Met Gln His Glu Lys Gly Leu
 50 55 60
 Ile Ser Ser Ala Gln Phe Arg Asp Ser Ile Arg Gly Gln Ile Thr Gln
 65 70 75 80
 Glu Val Thr Asp Glu Gln Ile Asp Ala Ala Trp Asn Ser Phe Leu Val
 85 90 95
 Asp Ile Pro Arg Phe Lys Leu Asp Met Leu Leu Lys Leu Arg Glu Lys
 100 105 110
 Tyr Val Val Tyr Leu Leu Ser Asn Thr Asn Glu Ile His Trp Lys Trp

115	120	125
Ala Cys Glu His Ala Phe Pro Tyr Arg Gly Phe Arg Val Glu Asp Tyr		
130	135	140
Phe Glu Lys Met Tyr Leu Ser Tyr Glu Met Lys Met Val Lys Pro Ala		
145	150	155
Glu Glu Ile Phe Arg Gly Val Leu Asp Asp Ala Asn Leu Asp Pro Arg		
165	170	175
Glu Thr Phe Phe Ile Asp Asp Ser Glu Ala Asn Cys Gln Gly Ala Gln		
180	185	190
Ala Leu Gly Ile Ser Thr Tyr Thr Val Lys Pro Gly Glu Asp Trp Arg		
195	200	205
Pro Leu Phe Ala Glu Asn		
210		

<210> 9127

<211> 612

<212> PRT

<213> B.fragilis

<400> 9127

Gly Gly Thr Leu Met Arg Lys Leu Leu Leu Leu Phe Ser Ala Leu		
1	5	10
Phe Val Leu Ser Ala Gln Ala Glu Asp Val Leu Arg Leu Met Thr Tyr		
20	25	30
Asn Val Arg Asn Ala Asn Gly Met Asp Gly Ile Cys Asn Tyr Gln Arg		
35	40	45
Val Ala Asn Val Ile Asn Asn Ala Arg Pro Asp Ile Val Ala Ile Gln		
50	55	60
Glu Leu Asp Ser Met Thr Ala Arg Ser Asn Arg Thr Asp Val Leu Lys		
65	70	75
Glu Leu Ala Glu Arg Thr Gln Leu His Pro Cys Phe Ala Pro Ala Ile		
85	90	95
Asp Tyr Asp Gly Gly Lys Tyr Gly Ile Gly Ile Leu Ser Lys Glu Thr		
100	105	110
Pro Leu Arg Val Gln Thr Phe Ala Leu Pro Gly Arg Glu Glu Ala Arg		
115	120	125
Thr Leu Leu Val Ala Glu Phe Pro Glu Tyr Val Phe Ala Cys Thr His		
130	135	140
Leu Ser Leu Thr Glu Glu Asp Arg Met Lys Ser Leu Glu Ile Leu Lys		
145	150	155
Ser Val Ala Ala Asn Thr Arg Lys Pro Phe Phe Leu Ala Gly Asp Phe		
165	170	175
Asn Ser Asp Ala Asp Ser Gly Phe Ile Lys Asp Leu Lys Ser Thr Phe		
180	185	190
Gln Ile Leu Ser Asn Pro Lys Gln Leu Thr Tyr Pro Ala Ser Glu Pro		
195	200	205
Lys Glu Thr Leu Asp Tyr Leu Ile Ala Leu Lys Gln Glu Thr Pro Thr		
210	215	220
Phe Val Val Asn Ser Ala Pro Val Ile Asp Glu Pro Leu Ala Ser Asp		
225	230	235
His Arg Pro Phe Val Val Glu Val Arg Met Ala Val Pro Glu Asn Arg		
245	250	255
Ile Cys Arg Thr Lys Pro Tyr Leu Gln Asn Pro Val Arg Gly Gly Ile		
260	265	270
Thr Val Met Trp Gln Thr Asn Val Pro Ala Tyr Cys Trp Val Glu Tyr		
275	280	285
Gly Thr Asp Pro Ser Asn Leu Lys Arg Ala Arg Thr Leu Leu Asp Gly		
290	295	300
Gln Val Val Cys Gly Asn Thr Leu His Lys Ile Arg Leu Asp Ser Leu		

305	310	315	320
Gln Pro Gly Gln Lys Tyr Tyr Tyr Arg Thr Cys Ser Gln Glu Ile Leu			
325	330	335	
Leu Tyr Gln Ala Tyr Lys Lys Val Phe Gly Asn Thr Ala Arg Thr Glu			
340	345	350	
Leu Arg Glu Phe Thr Leu Pro Ala Ala Gly Asp Asp Ser Phe Thr Ala			
355	360	365	
Val Val Phe Asn Asp Leu His Lys Gln Ser Lys Thr Phe Gln Ala Leu			
370	375	380	
Cys Glu Gln Ile Lys Gly Ile Asp Tyr Asp Phe Val Val Phe Asn Gly			
385	390	395	400
Asp Cys Val Asp Asp Pro Ala Asn His Asp Gln Ala Thr Ala Phe Ile			
405	410	415	
Ser Glu Leu Thr Glu Gly Val Glu Gly Asp Arg Val Pro Val Phe Phe			
420	425	430	
Met Arg Gly Asn His Glu Ile Arg Asn Ala Tyr Ser Val Gly Leu His			
435	440	445	
Ser Leu Phe Asp Tyr Val Gly Asp Lys Thr Tyr Gly Ser Phe Asn Trp			
450	455	460	
Gly Asp Thr Arg Ile Val Met Leu Asp Cys Gly Glu Asp Lys Pro Asp			
465	470	475	480
Asp His Trp Val Tyr Tyr Gly Leu Asn Asp Phe Thr Lys Leu Arg Asn			
485	490	495	
Asp Gln Val Gly Phe Leu Lys Arg Glu Leu Ala Ser Lys Glu Phe Lys			
500	505	510	
Lys Ala Ala Lys Arg Ile Leu Ile His His Ile Pro Leu Tyr Gly Asn			
515	520	525	
Asp Tyr Glu Asn Leu Cys Ser Gly Leu Trp Gly Lys Leu Leu Glu Lys			
530	535	540	
Ala Pro Phe Asn Ile Ser Leu Asn Ala His Thr His Glu Tyr Ala Tyr			
545	550	555	560
His Pro Lys Gly Ser Leu Gly Asn Asn Phe Pro Val Ile Ile Gly Gly			
565	570	575	
Gly Tyr Ser Met Lys Ser Ala Thr Val Met Val Ile Glu Lys Lys Lys			
580	585	590	
Asp Ile Leu Lys Val Lys Val Leu Asn Thr Lys Gly Glu Val Leu Leu			
595	600	605	
Glu Leu Thr Val	.		
610			

<210> 9128

<211> 559

<212> PRT

<213> B.fragilis

<400> 9128

Arg Glu Met Lys Gln Met Leu Gln Ile Tyr Cys Lys Asn Asn Asn Ile			
1	5	10	15
Ser Lys Glu Phe Pro Ile Gly Ser Ser Leu Leu Asp Ile Tyr Tyr Gly			
20	25	30	
Phe Asn Leu Asn Phe Pro Tyr Gln Val Val Ser Ala Lys Val Asn Asn			
35	40	45	
Arg Ser Glu Gly Leu Asn Phe Arg Val Tyr Asn Asn Lys Asp Val Glu			
50	55	60	
Phe Leu Asp Val Arg Asp Ser Ser Gly Met Arg Thr Tyr Val Arg Ser			
65	70	75	80
Leu Cys Phe Val Leu Tyr Lys Ala Val Ser Glu Leu Phe Pro Asn Gly			
85	90	95	
Lys Leu Phe Val Glu His Pro Val Ser Lys Gly Tyr Phe Cys Asn Leu			

100	105	110
Arg Ile Gly Arg Pro Val Thr Leu Glu Asp Val Ser Gln Ile Lys Lys		
115	120	125
Arg Met Gln Glu Ile Ile Ala Glu Asp Ile Thr Tyr His Arg Ile Glu		
130	135	140
Cys His Thr Thr Glu Ala Val Arg Val Phe Ser Glu Arg Gly Met Asn		
145	150	155
Asp Lys Val Lys Leu Leu Glu Ser Ser Gly Ser Ile Tyr Thr Tyr Tyr		
165	170	175
Tyr Thr Leu Gly Gly Thr Ala Asp Tyr Tyr Gly Asn Leu Leu Pro		
180	185	190
Ser Thr Gly Phe Ile His Leu Phe Asp Leu Val Lys Tyr Tyr Asp Gly		
195	200	205
Leu Leu Leu Arg Ile Pro Asn Lys Glu Asn Pro Ser Val Leu Glu Asp		
210	215	220
Val Val Lys Gln Glu Lys Met Leu Asp Val Phe Lys Glu His Leu Arg		
225	230	235
Trp Asn Tyr Ile Met Gly Leu Asn Asn Val Gly Asp Phe Asn Ile Ala		
245	250	255
Cys Glu Glu Gly His Ala Thr Asp Leu Ile Asn Val Ala Glu Ala Leu		
260	265	270
Gln Glu Lys Lys Ile Ala Gln Ile Ala Asp Ser Ile Phe His Arg Gly		
275	280	285
Glu Asn Gly Thr Arg Val Lys Leu Val Leu Ile Ser Gly Pro Ser Ser		
290	295	300
Ser Gly Lys Thr Thr Phe Ser Lys Arg Leu Ser Ile Gln Leu Met Thr		
305	310	315
Asn Gly Leu Lys Pro Tyr Pro Ile Ser Leu Asp Asn Tyr Phe Val Asp		
325	330	335
Arg Glu Asp Thr Pro Leu Asp Glu Asn Gly Asn Tyr Asp Tyr Glu Ser		
340	345	350
Leu Tyr Ala Leu Asp Leu Glu Leu Phe Asn Thr Gln Leu Gln Ala Leu		
355	360	365
Leu Arg Gly Glu Glu Val Glu Leu Pro Arg Tyr Asn Phe Met Leu Gly		
370	375	380
Lys Lys Glu Tyr Lys Gly Asp Lys Leu Arg Ile Asp Glu His Thr Val		
385	390	395
Leu Ile Leu Glu Gly Ile His Ala Leu Asn Pro Glu Leu Thr Pro Gln		
405	410	415
Ile Pro Ala Ala Asn Lys Phe Lys Ile Tyr Val Ser Ala Leu Thr Thr		
420	425	430
Ile Ser Leu Asp Asp His Asn Trp Ile Pro Thr Thr Asp Asn Arg Leu		
435	440	445
Leu Arg Arg Ile Ile Arg Asp Phe Asn Tyr Arg Gly Tyr Ser Ala Gln		
450	455	460
Glu Thr Ile Ser Arg Trp Pro Ser Val Arg Ala Gly Glu Asp Lys Trp		
465	470	475
Ile Phe Pro Tyr Gln Glu Asn Ala Asp Val Met Phe Asn Ser Ala Leu		
485	490	495
Leu Phe Glu Phe Ala Val Leu Arg Cys His Ala Glu Pro Ile Leu Thr		
500	505	510
Ser Val Pro Arg Asn Cys Pro Glu Tyr Ala Glu Ala Tyr Arg Leu Leu		
515	520	525
Lys Phe Ile Lys Tyr Phe Thr Pro Val Gln Asp Lys Glu Ile Pro Pro		
530	535	540
Thr Ser Leu Leu Arg Glu Phe Leu Gly Gly Ser Ser Phe Lys Tyr		
545	550	555

<211> 333
 <212> PRT
 <213> B.fragilis

<400> 9129

Asn	Pro	Val	Lys	Thr	Gly	Gly	Arg	Phe	Leu	Pro	Arg	Ile	Lys	Ile	Asn
1					5					10					15
Arg	Arg	Asn	Ser	Met	Gln	Ile	Ile	Arg	Asn	Ile	Pro	Gly	Val	Leu	Pro
				20					25					30	
Glu	Pro	Cys	Val	Ala	Thr	Ile	Gly	Phe	Phe	Asp	Gly	Val	His	Met	Gly
				35					40				45		
His	Arg	Phe	Leu	Ile	Glu	Gln	Val	Arg	Glu	Leu	Ala	Ala	Ala	Arg	Gly
				50					55				60		
Leu	Arg	Ser	Ala	Leu	Ile	Thr	Phe	Pro	Ile	His	Pro	Arg	Lys	Val	Met
				65					70			75		80	
Asn	Ala	Asp	Tyr	Arg	Pro	Glu	Leu	Leu	Thr	Thr	Ser	Glu	Glu	Lys	Leu
					85					90				95	
Ala	Leu	Leu	Glu	Glu	Thr	Gly	Val	Asp	Tyr	Cys	Phe	Met	Leu	Asp	Phe
					100				105				110		
Thr	Arg	Glu	Val	Ser	His	Leu	Thr	Ala	His	Glu	Phe	Met	Ser	Asp	Ile
				115					120				125		
Leu	Arg	Asp	Arg	Tyr	Arg	Val	Gln	Ile	Leu	Val	Ile	Gly	Tyr	Asp	His
				130				135				140			
Arg	Phe	Gly	His	Asn	Arg	Ser	Glu	Gly	Phe	Glu	Asp	Tyr	Cys	Arg	Tyr
				145				150			155			160	
Gly	Ser	Glu	Met	Gly	Ile	Glu	Val	Ile	Arg	Ala	Arg	Ala	Cys	Val	Cys
					165				170				175		
Asp	Asp	Leu	His	Ile	Ser	Ser	Ser	Val	Ile	Arg	Lys	Met	Leu	His	Gln
					180				185				190		
Gly	Glu	Val	Asp	Arg	Ala	Ala	Arg	Cys	Leu	Gly	Tyr	Asp	Tyr	Phe	Leu
				195				200			205				
Asp	Gly	Thr	Val	Val	Ser	Gly	Tyr	Gln	Val	Gly	Arg	Lys	Ile	Gly	Phe
				210				215			220				
Pro	Thr	Ala	Asn	Leu	Ser	Val	Asp	Asp	Pro	Asp	Lys	Leu	Val	Pro	Ala
				225				230			235			240	
Asp	Gly	Val	Tyr	Ala	Val	His	Val	Thr	Phe	Asp	Gly	His	Thr	Tyr	Asn
					245				250				255		
Gly	Met	Leu	Asn	Ile	Gly	Thr	Arg	Pro	Thr	Ile	Gly	Asn	Gly	Pro	Glu
					260				265				270		
Arg	Ser	Ile	Glu	Val	Asn	Ile	Leu	His	Phe	His	Ser	Asp	Ile	Tyr	Asp
					275				280			285			
Lys	Phe	Ile	Arg	Leu	Ser	Phe	Val	Lys	Tyr	Leu	Arg	Pro	Glu	Leu	Lys
				290				295			300				
Phe	Asp	Gly	Ile	Glu	Gly	Leu	Ile	Ala	Gln	Leu	His	Gln	Asp	Ala	Ala
				305				310			315			320	
Asp	Val	Glu	Ala	Leu	Leu	Gly	Lys	Ile	Gln	Asn	Val	Asn			
					325				330						

<210> 9130
 <211> 185
 <212> PRT
 <213> B.fragilis

<400> 9130

Ser	Pro	Gly	Glu	Asp	Gln	Met	Phe	Leu	Asn	Pro	Val	Asn	Arg	Glu	Lys
1					5				10					15	
Tyr	Pro	Ala	Phe	Val	Leu	Val	Pro	Gln	Cys	Pro	Glu	Lys	Asp	Tyr	Trp
					20				25				30		
Ala	Tyr	Thr	Ser	Arg	Pro	Ser	Ser	Phe	Ile	Pro	Ser	Glu	Met	Pro	Val

35	40	45
Gly Gln Glu Ile Thr Pro Val Leu Arg Ala Val Lys	Glu Leu Leu Asp	
50	55	60
Thr Tyr Leu Asp Leu Pro Gln Val Asp Arg Asn Arg	Ile Tyr Val Val	
65	70	75
Gly Leu Ser Met Gly Gly Met Ala Thr Tyr Asp Leu Ala Val Arg Phe		80
85	90	95
Pro Asp Thr Phe Ala Ala Ala Val Pro Ile Cys Gly Thr Val Asn Pro		
100	105	110
Val Arg Leu Ala Asp Ala Ala Asn Val Arg Phe Arg Ile Phe His Gly		
115	120	125
Asp Ala Asp Asn Val Val Pro Val Glu Gly Ser Arg Gly Ala Tyr Lys		
130	135	140
Ala Leu Lys Asn Leu Gly Ala Glu Val Glu Tyr Ile Glu Phe Pro Gly		
145	150	155
Cys Asn His Gly Ser Trp Asn Pro Ala Phe Asn Tyr Pro Gly Phe Met		160
165	170	175
Glu Trp Val Phe Ala Gln Arg Lys Arg		
180	185	

<210> 9131

<211> 526

<212> PRT

<213> B.fragilis

<400> 9131

Leu Cys His Cys Leu Lys Pro Asn Arg Met Lys Ile Ser Thr Leu Ile		
1	5	10
Leu Thr Ile Leu Val Cys Phe Ser Thr Ile Val Asp Ala Gln Gly Thr		15
20	25	30
Gln Asn Arg Ala Asn Glu Leu Met Lys Gln Ala Gln Ser Ser Leu Glu		
35	40	45
Gln Lys Glu Tyr Thr Lys Ala Arg Tyr Leu Phe Ile Gln Ala Tyr Gly		
50	55	60
Ala Phe Ala Thr Gln Glu Asn Tyr Pro Lys Ala Val Glu Cys Gly Ile		
65	70	75
Gln Gly Ala Ala Leu Tyr His Arg Glu Asn Tyr Tyr Lys Glu Ala Phe		80
85	90	95
Asp Leu Cys Arg Gly Met Asp Gln Leu Val Trp Ala Gly Glu Gln Lys		
100	105	110
Gln Gln Lys Gln Phe Tyr Pro Leu Arg Phe Gln Ile Thr Lys Glu Arg		
115	120	125
Leu Gln Met Tyr Ile Gly Leu Lys Asn Ala Ala Gln Ala Lys Ile Gln		
130	135	140
Leu Asp Lys Leu Ala Glu Thr Val Gly Leu Ala Lys Asn Asp Ser Leu		
145	150	155
Ser Glu Asn Leu Leu Tyr Thr Gln Ala Ser Tyr Tyr Thr Phe Gly		160
165	170	175
Gln Asn Thr Gln Gly Asp Ala Cys Phe Gln Lys Leu Ile Asn Gln Tyr		
180	185	190
Lys Ala Gln Lys Asn Tyr Asp Lys Val Asn Glu Cys Tyr Lys Lys Leu		
195	200	205
Ile Ala Ile Gly Arg Lys Ser Asn Asn Ala Ser Leu Val Ala Arg Thr		
210	215	220
Tyr Glu Asn Phe Ile Val Trp Thr Asp Ser Val Lys Ala Met Thr Ala		
225	230	235
Gln Asp Glu Leu Asn Val Leu Lys Arg Lys Tyr Asp Glu Ser Gln Gln		240
245	250	255
Ile Ile Gln Glu Lys Glu Asp Thr Leu Ser Gly Gln Tyr Met Ile		

260	265	270
Val Gly Leu Cys Thr Leu Val Val Ile Leu Ile Ala Gly	Leu Ile Phe	
275	280	285
Val Ala Ile Val Leu Leu Arg Phe Ile Ala Gly Asn Arg	Lys Leu Lys	
290	295	300
Lys Ser Val Gln Ile Ala Asn Glu His Asn Glu Leu Lys	Thr Gln Phe	
305	310	315
Ile Gln Asn Ile Ser Ala Gln Met Glu Pro Thr Leu Asp	Thr Leu Ala	
325	330	335
Ser Ser Ala Ala Glu Leu Ser Asp Lys Ala Pro Gln Gln	Ala Gln Gln	
340	345	350
Met Gln Gly Gln Val Ala Ala Leu Lys Lys Phe Ser Asn	Asp Ile Gln	
355	360	365
Glu Leu Ser Thr Leu Glu Asn Ser Leu Thr Glu Pro Tyr	Glu Met Lys	
370	375	380
Glu Ile Asn Val Asn Thr Phe Cys Glu Ala Thr Met Asp	Lys Val Lys	
385	390	395
Glu Phe Val Gln Pro Glu Val Ser Thr Val Val Asn Ala	Ala Lys Leu	
405	410	415
Gln Ile Lys Thr Asn Pro Glu Gln Leu Glu Arg Ile Leu	Ile His Leu	
420	425	430
Leu Lys Asn Ala Ala Glu Tyr Thr Glu Ser Gly Lys Ile	Phe Leu Asp	
435	440	445
Phe Lys Lys Arg Gly Ala His Thr His Gln Phe Ile Ile	Ser Asp Thr	
450	455	460
Gly Thr Gly Ile Pro Val Glu Lys Gln Glu Asn Leu Phe	Lys Pro Phe	
465	470	475
Thr Glu Ile Lys Asp Leu Thr Glu Gly Asp Gly Leu Gly	Leu Pro Ile	
485	490	495
Cys Ala Leu Ile Ala Thr Lys Met Asn Gly Ser Leu Thr	Leu Asp Thr	
500	505	510
Ser Tyr Thr Lys Gly Ser Arg Phe Val Leu Glu Leu His	Thr	
515	520	525

<210> 9132

<211> 562

<212> PRT

<213> B.fragilis

<400> 9132

Phe Asn Val Cys Ile Cys Met Thr Ala Lys Asn Asp Asp	Tyr Phe His	
1 5	10	15
Leu Gly Leu Thr Asp Gln Glu Val Leu Gln Ser Arg Glu	Lys Tyr Gly	
20 25	30	
Ala Asn Leu Leu Thr Pro Pro Lys Arg Pro Ser Leu Leu	Lys Leu Tyr	
35 40	45	
Leu Glu Lys Phe Glu Asp Pro Val Val Arg Val Leu Leu	Ile Ala Ala	
50 55	60	
Val Phe Ser Leu Ile Ile Ser Val Ile Glu Asn Glu Tyr	Ala Glu Thr	
65 70	75	80
Ile Gly Ile Ile Ala Ala Ile Leu Leu Ala Thr Gly Ile	Gly Phe Tyr	
85 90	95	
Phe Glu Tyr Asp Ala Asn Lys Lys Phe Asp Leu Leu Asn	Ala Val Asn	
100 105	110	
Glu Glu Thr Leu Val Lys Val Ile Arg Asn Gly Arg Ile	Gln Glu Ile	
115 120	125	
Pro Arg Lys Asp Val Val Val Gly Asp Ile Val Val Leu	Glu Thr Gly	
130 135	140	
Glu Glu Ile Pro Ala Asp Gly Glu Leu Ile Glu Ala Ile	Ser Leu Gln	

145	150	155	160
Val Asn Glu Ser Asn Leu Thr Gly Glu Pro Val Ile Asn Lys Thr Ile			
165	170	175	
Ile Glu Ala Asp Phe Asp Glu Glu Ala Thr Tyr Ala Ser Asn Leu Val			
180	185	190	
Met Arg Gly Thr Thr Val Val Asp Gly His Gly Ser Met Lys Val Leu			
195	200	205	
Arg Val Gly Asp Ala Thr Glu Ile Gly Lys Val Ala Arg Gln Ser Thr			
210	215	220	
Glu Gln Thr Thr Glu Pro Thr Pro Leu Asn Ile Gln Leu Thr Lys Leu			
225	230	235	240
Ala Asn Leu Ile Gly Lys Ile Gly Phe Thr Val Ala Gly Leu Ala Phe			
245	250	255	
Leu Ile Phe Phe Ile Lys Asp Val Val Leu Tyr Phe Asp Phe Gly Ala			
260	265	270	
Leu Asn Gly Trp His Asp Trp Leu Pro Val Leu Glu Arg Thr Leu Lys			
275	280	285	
Tyr Phe Met Met Ala Val Thr Leu Ile Val Val Ala Val Pro Glu Gly			
290	295	300	
Leu Pro Met Ser Val Thr Leu Ser Leu Ala Leu Asn Met Arg Arg Met			
305	310	315	320
Leu Ala Thr Asn Asn Leu Val Arg Lys Met His Ala Cys Glu Thr Met			
325	330	335	
Gly Ala Ile Thr Val Ile Cys Thr Asp Lys Thr Gly Thr Leu Thr Gln			
340	345	350	
Asn Leu Met Gln Val His Glu Pro Asn Phe Tyr Gly Leu Lys Asp Gly			
355	360	365	
Gly Lys Leu Thr Asp Asp Asp Ile Ser Arg Leu Ile Ala Glu Gly Ile			
370	375	380	
Ser Ala Asn Ser Thr Ala Phe Leu Glu Glu Thr Gly Lys Gly Glu Lys			
385	390	395	400
Pro Lys Gly Val Gly Asn Pro Thr Glu Val Ala Leu Leu Leu Trp Leu			
405	410	415	
Asn Ser Gln Lys Arg Asn Tyr Leu Glu Leu Arg Glu Gly Ala Arg Val			
420	425	430	
Leu Asp Gln Leu Thr Phe Ser Thr Glu Arg Lys Phe Met Ala Thr Leu			
435	440	445	
Val Lys Ser Pro Leu Ile Gly Lys Lys Val Leu Tyr Ile Lys Gly Ala			
450	455	460	
Pro Glu Ile Val Leu Gly Lys Cys Lys Glu Val Ile Leu Asp Gly Arg			
465	470	475	480
Arg Val Asp Ser Val Glu Tyr Arg Ser Thr Val Glu Ala Gln Leu Leu			
485	490	495	
Gly Tyr Gln Asn Met Ala Met Arg Thr Leu Gly Phe Ala Phe Arg Leu			
500	505	510	
Val Glu Asp Asn Glu Pro Asp Asp Cys Val Ala Leu Val Ser Glu Asn			
515	520	525	
Asn Leu Asn Phe Leu Gly Val Val Ala Ile Ser Arg Pro Ile Arg Ser			
530	535	540	
Asp Val Pro Ala Ala Val Ala Lys Cys His Arg Glu Val Leu Val Ser			
545	550	555	560
Arg Leu			

<210> 9133
<211> 575
<212> PRT
<213> B.fragilis

<400> 9133

Thr Met Met Trp Gln Ile Val Leu Ser Leu Val Cys Val Ala Phe Leu
 1 5 10 15
 Gly Ala Ile Leu Trp Glu Lys Arg Gln Gly Lys Leu Met Gln Ser Ala
 20 25 30
 Ser Asp Arg Lys Leu Glu Asn Val Asn Cys Leu Phe Asp Ala Ile Leu
 35 40 45
 Thr His Ile His Ala Tyr Val Leu Val Ile Asp Ser Asp Phe Lys Val
 50 55 60
 Leu Lys Thr Asn Tyr Tyr Asp Leu Thr His Leu Ser Pro Asp Gly Lys
 65 70 75 80
 Glu Lys Arg Val Gly Asp Leu Leu Gln Cys Arg Asn Ala Leu Ser Ala
 85 90 95
 Lys Gly Gly Cys Gly Thr His Ala Phe Cys Gln Glu Cys Pro Val Arg
 100 105 110
 Gly Ala Ile Gly Asn Ala Phe Arg Gln Lys Lys Glu Phe Thr Asp Leu
 115 120 125
 Gln Ser Ser Leu Asn Ile Ala Ile Asp Glu His Glu Phe Val Lys Cys
 130 135 140
 Asp Val Met Ile Ser Gly Val Phe Met Thr Leu Asp Ser Glu Glu Arg
 145 150 155 160
 Met Val Leu Thr Val His Asp Ile Thr Ser Ile Lys Gln Thr Glu Glu
 165 170 175
 Ala Leu Ala Glu Ala Lys Glu Lys Ala Glu Asn Ala Asp Arg Ser Lys
 180 185 190
 Ser Ala Phe Leu Ala Asn Met Ser His Glu Ile Arg Thr Pro Leu Asn
 195 200 205
 Ala Ile Val Gly Phe Ser Glu Leu Leu Ala Ala Asn Thr Glu Glu
 210 215 220
 Glu Lys Gln Lys Tyr Leu Glu Ile Leu His Thr Asn Ser Glu Leu Leu
 225 230 235 240
 Leu Gln Leu Val Asn Asp Ile Leu Asp Leu Ser Lys Ile Glu Ala Gly
 245 250 255
 Thr Leu Glu Phe Val Tyr Ser Asp Val Asp Ile Asn Leu Leu Leu Asn
 260 265 270
 Asp Leu Glu Gln Leu Phe Arg Met Lys Ile Gly Ser Asn Ser Pro Val
 275 280 285
 Gln Ile Ile Thr Glu Ser Gly Leu Pro Ser Cys Met Val His Thr Asp
 290 295 300
 Arg Asn Arg Ile Ala Gln Val Val Ser Asn Phe Val Ser Asn Ala Ile
 305 310 315 320
 Lys Phe Thr Thr Glu Gly Ser Ile Arg Ile Gly Tyr Gln Ser Ser Glu
 325 330 335
 Asn Gly Leu Arg Phe Tyr Val Ser Asp Thr Gly Ser Gly Ile Ser Ala
 340 345 350
 Asp Lys Leu Glu Gly Val Phe Asp Arg Phe Val Arg Leu Gln Ser Asp
 355 360 365
 Lys Asn Gly Asn Gly Leu Gly Leu Ser Ile Cys Lys Thr Ile Val Asn
 370 375 380
 Lys Leu Gly Gly Glu Ile Gly Ala Glu Ser Glu Val Gly Lys Gly Ser
 385 390 395 400
 Thr Phe Trp Phe Thr Leu Pro Glu His Ser Asp Ile Lys Pro Lys Val
 405 410 415
 Ile Ile Glu Lys Glu Gln Glu Leu Pro Ser Ala Val Arg Val Pro
 420 425 430
 Val Ile Asp Ala Gly Ser Asp Lys Lys Leu Ser Ile Leu Val Ala Glu
 435 440 445
 Asp Met Glu Asp Asn Tyr Arg Leu Cys Glu Ala Ile Leu Ala Ser Arg
 450 455 460

Tyr Glu Leu His Trp Ala His Asn Gly Glu Glu Ala Ile Ser Leu Phe
 465 470 475 480
 Leu Lys Phe Gln Pro Asp Ile Ile Leu Met Asp Ile Arg Met Pro Glu
 485 490 495
 Val Asn Gly Tyr Glu Ala Thr Glu Ala Ile Arg Gln Met Ser Ala Thr
 500 505 510
 Val Pro Ile Ile Ala Leu Thr Ala Phe Ala Tyr Glu Glu Asp Arg Gln
 515 520 525
 Lys Ile Met His Ser Gly Phe Thr Asp Phe Pro Asp Glu Ala His Phe
 530 535 540
 Val Lys Ser Thr Val Gly Lys Thr Gly Ile Leu Lys Lys Asp Leu Arg
 545 550 555 560
 Asn Ile Leu Tyr Arg Ile Tyr Val Val Leu Leu Gln Leu Leu Ile
 565 570 575

<210> 9134

<211> 90

<212> PRT

<213> B.fragilis

<400> 9134

Ala Gly Ile Arg Trp Asn Gly Leu Gln Thr Ile Ser Gly Asp Pro Trp
 1 5 10 15
 Lys Glu Asp Val Ser Lys Leu Ala Phe Thr Thr Asp Tyr Thr Asn Val
 20 25 30
 Tyr Arg Trp Ile Leu Leu Ser Ile Asn Arg Leu Ser Ser Ser Cys Glu
 35 40 45
 Val Leu Tyr His Ser Val Val Ser Tyr Gly Ile Pro Pro Phe Cys Arg
 50 55 60
 Ser Arg Ser Val Glu Leu Leu Ser Cys Ala Ser Leu Pro Met Gln Leu
 65 70 75 80
 Cys Gly Glu Thr Gly Phe Arg Asp Ile Phe
 85 90

<210> 9135

<211> 515

<212> PRT

<213> B.fragilis

<400> 9135

Arg Lys Asn Arg Arg Glu Arg Gly Arg His Gly Gly Gly Val Pro Glu
 1 5 10 15
 Arg Tyr Ser Arg Pro Leu Pro Trp Arg Asp Gly Tyr Cys Ser Ala Val
 20 25 30
 Asn Leu Ile Cys Phe Ile Ser Phe Val Asn Ser Ser Phe Val Pro Ile
 35 40 45
 Phe Ala Ile Ile Thr Leu Ile Tyr Thr Ile Met Phe Ser Lys Glu Thr
 50 55 60
 Tyr Thr Gln Arg Arg Ala Leu Leu Lys Lys Thr Leu Gly Ser Gly Val
 65 70 75 80
 Leu Leu Phe Leu Gly Asn Asp Glu Cys Gly Leu Asn Tyr Glu Asp Asn
 85 90 95
 Thr Phe Arg Tyr Arg Gln Asp Ser Thr Phe Leu Tyr Tyr Phe Gly Leu
 100 105 110
 Ser Phe Ala Gly Leu Ser Ala Ile Ile Asp Ile Asp Glu Asp Lys Glu
 115 120 125
 Ile Ile Phe Gly Asp Glu Leu Thr Ile Asp His Ile Val Trp Met Gly
 130 135 140
 Thr Gln Pro Thr Leu Lys Glu Lys Ser Glu Arg Val Gly Val Asp Ile

145	150	155	160
Thr Met Pro Ser Ala Asp Ile Val Ser Tyr	Leu His Lys Ala Val Gln		
165	170	175	
Lys Gly Gln Ala Ile His Tyr Leu Pro Pro Tyr Arg Ala Glu His Lys			
180	185	190	
Leu Lys Leu Met Asp Trp Leu Gly Val Pro Ser Ala Arg Gln Glu Gly			
195	200	205	
Ser Val Pro Phe Ile Arg Ala Val Ile Ala Gln Arg Asn Tyr Lys Ser			
210	215	220	
Ser Glu Glu Ile Val Glu Ile Glu Lys Ala Cys Asp Ile Thr Ala Asp			
225	230	235	240
Met His Ile Thr Ala Met Lys Ile Leu Arg Pro Gly Met Arg Glu Trp			
245	250	255	
Glu Val Ser Ala Ala Met Glu Ala Val Ala His Ala Ala Gly Gly Asp			
260	265	270	
Leu Ser Phe Ala Thr Ile Ala Thr Val Asn Gly Gln Thr Leu His Asn			
275	280	285	
His Tyr His Gly Asn Ile Val Lys Pro Gly Asp Leu Phe Leu Ile Asp			
290	295	300	
Ala Gly Ala Glu Thr Glu Met Gly Tyr Ala Gly Asp Met Ser Ser Thr			
305	310	315	320
Val Pro Ala Asp Lys Lys Phe Thr Arg Arg Gln Arg Glu Val Tyr Glu			
325	330	335	
Ile Gln Asn Ala Met His Leu Glu Ser Val Lys Ala Leu Arg Pro Gly			
340	345	350	
Ile Pro Tyr Met Asp Val Tyr Asp Leu Ser Ala Arg Val Met Val Glu			
355	360	365	
Gly Leu Lys Gly Leu Gly Leu Met Lys Gly Asn Ala Glu Asp Ala Val			
370	375	380	
Arg Glu Gly Ala His Ala Leu Phe Tyr Pro His Gly Leu Gly His Met			
385	390	395	400
Met Gly Leu Asp Val His Asp Met Glu Asn Leu Gly Glu Leu Trp Val			
405	410	415	
Gly Tyr Asn Gly Gln Pro Lys Ser Thr Gln Phe Gly Arg Lys Ser Gln			
420	425	430	
Arg Leu Ala Ile Pro Leu Glu Pro Gly Phe Val His Thr Val Glu Pro			
435	440	445	
Gly Ile Tyr Phe Ile Pro Glu Leu Ile Asp Leu Trp Lys Gly Gln Lys			
450	455	460	
Lys Phe Thr Asp Phe Ile Asn Tyr Asp Lys Val Glu Thr Tyr Lys Asp			
465	470	475	480
Phe Gly Gly Ile Arg Asn Glu Glu Asp Tyr Leu Ile Thr Glu Thr Gly			
485	490	495	
Ala Arg Arg Leu Gly Lys Lys Ile Pro Leu Thr Pro Asp Glu Val Glu			
500	505	510	
Ala Leu Arg			
515			

<210> 9136

<211> 496

<212> PRT

<213> B.fragilis

<400> 9136

Ser Ile Lys Arg Met Ala Gln Gly Ser Arg Gln Ile Gln Ser Gln Ala
1 5 10 15Gln Gln Gln Ile Gln Thr Leu Ser Pro Gln Gln Ile Leu Val Val Lys
20 25 30

Leu Leu Glu Leu Pro Ala Val Glu Leu Glu Asp Arg Val His Ala Glu

35	40	45
Leu Leu Glu Asn Pro Ala Leu Glu Glu Gly Lys	Glu Glu Ser Thr Ser	
50	55	60
Asp Glu Thr Thr Pro Ala Glu Thr Ser Glu Gly	Glu Thr Glu Gly Asp	
65	70	75
Thr Asp Tyr Asp Ser Leu Ser Asp Tyr Leu Thr	Glu Asp Asp Ile Pro	
85	90	95
Asp Tyr Lys Leu Gln Glu Asn Asn Arg Ser Lys	Gly Glu Gln Ala Glu	
100	105	110
Glu Ile Pro Phe Ser Asp Ala Thr Ser Phe Tyr	Glu Ile Leu Arg Glu	
115	120	125
Gln Leu Gly Glu Arg Asn Leu Thr Glu His Gln	Arg Glu Leu Ala Glu	
130	135	140
Tyr Leu Ile Gly Ser Leu Asp Asp Gly Leu	Leu Arg Lys Ser Leu	
145	150	155
Glu Ser Ile Gly Asp Glu Leu Ala Ile Tyr	Ala Gly Ile Asn Ala Thr	
165	170	175
Glu Glu Glu Leu Glu Ala Leu Arg Ile Val Gln	Asp Phe Asp Pro	
180	185	190
Pro Gly Leu Gly Ala Arg Ser Leu Gln Glu Cys	Leu Ile Gln Ile	
195	200	205
Arg Arg Lys Lys Gln Ser His Cys Thr Asp Pro	Leu Leu Glu Thr Glu	
210	215	220
Glu Glu Ile Ile Ser Glu Cys Tyr Glu Glu Phe	Thr Arg Lys His Trp	
225	230	235
Glu Lys Ile Ile Lys Lys Leu Gly Leu Asp Glu	Glu His Phe Tyr Lys	
245	250	255
Ala Leu Glu Glu Ile Thr Lys Leu Asn Pro Arg	Pro Gly Ala Ser Leu	
260	265	270
Gly Glu Ala Ile Gly Arg Asn Leu Gln Gln Ile	Val Pro Asp Phe Ile	
275	280	285
Val Asp Thr Tyr Asp Asp Gly Thr Ile Asn Ile	Ser Leu Asn Asn Arg	
290	295	300
Asn Leu Pro Glu Leu Arg Met Ser Arg Asp Phe	Thr Glu Met Val Glu	
305	310	315
Glu His Thr Lys Asn Lys Ala Asn Gln Ser Lys	Glu Ser Lys Glu Ala	
325	330	335
Met Met Phe Leu Lys Gln Lys Met Asp Ala Ala	Gln Gly Phe Ile Asp	
340	345	350
Ala Val Lys Gln Arg Gln Asn Thr Leu Met Thr	Thr Met Gln Ala Ile	
355	360	365
Ile Asp Leu Gln Arg Pro Phe Phe Leu Glu Gly	Asp Glu Ser Leu Leu	
370	375	380
Arg Pro Met Ile Leu Lys Asp Val Ala Glu Arg	Thr Gly Leu Asp Ile	
385	390	395
Ser Thr Ile Ser Arg Val Ser Asn Ser Lys	Tyr Val Gln Thr Asn Tyr	
405	410	415
Gly Ile Tyr Pro Leu Lys Phe Phe Ser Asp Gly	Tyr Thr Thr Glu	
420	425	430
Asp Gly Glu Glu Met Ser Val Arg Glu Ile Arg	Lys Ile Leu Lys Glu	
435	440	445
Cys Ile Asp Ser Glu Asp Lys Lys Pro Leu Thr	Asp Asp Glu Leu	
450	455	460
Ala Glu Ile Leu Lys Glu Lys Gly Tyr Pro Ile	Ala Arg Arg Thr Val	
465	470	475
Ala Lys Tyr Arg Gln Gln Leu Asn Ile Pro Val	Ala Arg Leu Arg Lys	
485	490	495

<211> 80
<212> PRT
<213> B.fragilis

<400> 9137
Lys Ile Asn Arg Ile Met Ala Ile Ile Val Asn Leu Asp Ile Met Met
1 5 10 15
Ala Arg Arg Lys Ile Ser Leu Gly Glu Leu Ala Glu Lys Ile Asp Ile
20 25 30
Thr Pro Ala Asn Leu Ser Ile Leu Lys Thr Gly Lys Ala Lys Ala Ile
35 40 45
Arg Phe Ser Thr Leu Glu Ala Ile Cys Arg Val Leu Asp Cys Gln Pro
50 55 60
Gly Asp Ile Leu Glu Tyr Gln Val Asp Glu Glu Asp Gly Gly Thr Ser
65 70 75 80

<210> 9138
<211> 490
<212> PRT
<213> B.fragilis

<400> 9138
Lys Lys Leu Ser Thr Ser Leu Lys Gln Thr Lys Lys Met Asp Leu Phe
1 5 10 15
Asn Tyr Ser Arg Arg Glu Thr Ser Glu Val Asn Ile Gly Ala Val Pro
20 25 30
Leu Gly Gly Pro Asn Pro Ile Arg Ile Gln Ser Met Thr Asn Thr Pro
35 40 45
Thr Gln Asp Thr Glu Ala Cys Val Ala Gln Ala Lys Arg Ile Val Asp
50 55 60
Ala Gly Gly Glu Tyr Val Arg Leu Thr Thr Gln Gly Val Lys Glu Ala
65 70 75 80
Glu Asn Leu Met Asn Ile Asn Ile Gly Leu Arg Ser Thr Gly Tyr Met
85 90 95
Val Pro Leu Val Ala Asp Val His Phe Ser Pro Lys Val Ala Asp Val
100 105 110
Ala Ala Gln Tyr Ala Glu Lys Val Arg Ile Asn Pro Gly Asn Tyr Val
115 120 125
Asp Pro Gly Arg Thr Phe Lys Gln Leu Glu Tyr Thr Asp Glu Glu Tyr
130 135 140
Ala Ala Glu Leu Gln Lys Ile Arg Asp Arg Phe Val Pro Phe Leu Asn
145 150 155 160
Ile Cys Lys Glu Asn His Thr Ala Val Arg Ile Gly Val Asn His Gly
165 170 175
Ser Leu Ser Asp Arg Ile Met Ser Arg Tyr Gly Asp Thr Pro Glu Gly
180 185 190
Met Val Glu Ser Cys Met Glu Phe Leu Arg Ile Cys Val Asp Glu Lys
195 200 205
Phe Thr Asp Val Val Ile Ser Ile Lys Ala Ser Asn Thr Val Val Met
210 215 220
Val Lys Thr Val Arg Leu Leu Val Ser Val Met Glu Gln Glu Gly Met
225 230 235 240
Ser Phe Pro Leu His Leu Gly Val Thr Glu Ala Gly Asp Gly Glu Asp
245 250 255
Gly Arg Ile Lys Ser Ala Leu Gly Ile Gly Ala Leu Leu Ala Asp Gly
260 265 270
Leu Gly Asp Thr Ile Arg Val Ser Leu Ser Glu Glu Pro Glu Ala Glu
275 280 285
Ile Pro Val Ala Arg Lys Leu Val Asp Tyr Ile Thr Ser Arg Arg Asn

B. fragilis protein sequence

290	295	300
His Pro Tyr Ile Pro Gly Met Glu Ala Pro Asp Phe Asn Tyr Leu Ser		
305	310	315
Pro Val Arg Arg Lys Thr Arg Pro Val Arg Asn Ile Gly Gly Asp His		320
325	330	335
Leu Pro Val Val Leu Ala Asp Arg Met Asp Gly Arg Met Glu Thr His		
340	345	350
Pro Gln Phe Thr Pro Asp Tyr Ile Tyr Ala Gly Arg Ala Leu Pro Glu		
355	360	365
Gln Thr Glu Pro Gly Val Gln Tyr Ile Leu Asp Ala Asp Val Trp Lys		
370	375	380
Gly Glu Pro Asp Thr Trp Pro Ala Phe Asn Tyr Ala Gln Leu Glu Leu		
385	390	395
Met Val Thr Cys Val Ala Glu Leu Lys Phe Leu Phe Tyr Pro Leu His		400
405	410	415
Gly Ala Tyr Arg Gly Ser Cys Arg Met Pro Glu Ala Thr Pro Arg Ser		
420	425	430
Ser Arg Cys Leu Thr Lys Gln Pro Pro Glu Pro Cys Arg Arg Thr Ser		
435	440	445
Cys Pro Gly Thr Ser Thr Asp Gly Gly Ile Thr Glu Ser Gly Tyr		
450	455	460
Leu Leu Pro Thr Leu Cys Arg Arg Tyr Ser Arg Arg Leu Ala Gly Gln		
465	470	475
Ser Arg Cys Gly Tyr Gly Ser Leu Asp Leu		480
485	490	

<210> 9139

<211> 224

<212> PRT

<213> B.fragilis

<400> 9139

Arg Ser Thr Arg Ser Ala Ser Pro Phe Pro Gly Gly Gln His Leu Glu		
1	5	10
Tyr Ala Leu Asn Asn His Lys Ala Lys Ala Ser Val Thr Glu Ser Glu		15
20	25	30
Gly Met Lys Gln Val Ser Trp Thr Leu Lys Asn Leu Pro Ala Leu Ser		
35	40	45
Arg Glu Pro Gln Val Ser Val Ile Gly Gly Asp Leu Pro Leu Leu Thr		
50	55	60
Ala Thr Thr Glu Glu Lys Pro Leu Ser Phe Leu Thr Ser Gln Trp Gln		
65	70	75
80		
Pro Glu Gly Asp Ala Gly Ile Arg Ala Leu Ala Gly Lys Leu Thr Ala		
85	90	95
Gly Ala Lys Asp Asp Lys Glu Lys Val Thr Ala Ile Arg Asp Tyr Val		
100	105	110
Ile Asp Asn Leu Tyr Tyr Ser Ser Leu Pro Leu Ala Glu Ser Gly Tyr		
115	120	125
Arg Ile Arg Pro Ala Ala Glu Val Ile Arg Ser Ala Tyr Gly Thr Glu		
130	135	140
Ala Glu Lys Ala Asn Leu Met Ala Ala Leu Leu Lys Ala Ala Gly Leu		
145	150	155
160		
Lys Ala Gly Ile Gly Ala Val Cys Ala Pro Ser Glu Asn Thr Ala Ser		
165	170	175
Leu Gly Val Gly Ser Ile Arg Asp Thr Ile Cys Val Asp Gln Arg Arg		
180	185	190
Arg Gln Pro Thr Gly Ser Val Ser Glu Arg Gln Asn Ser Leu Ser Arg		
195	200	205
Phe Val Ala Glu Arg Leu Cys Leu Cys Ser Phe Ile Asp Ala Ala Val		

210

215

220

<210> 9140
<211> 389
<212> PRT
<213> B.*fragilis*

<400> 9140
 Leu Ser Gly Gly Thr Cys Asp Arg Glu Pro Thr Thr Asn Gln Arg Cys
 1 5 10 15
 Gly Ser Gly Val Arg Ile Arg Lys Glu Arg Ser Gly Ile Val Asn Lys
 20 25 30
 Pro Ser Tyr Leu Thr His Pro Thr Val Lys Ile Ile Asn Phe Glu Ala
 35 40 45
 Leu Asn Ser Lys Ser Ile Ile Met Lys Arg Asn Ser Met Phe Ile Leu
 50 55 60
 Ser Ala Phe Ile Leu Phe Ser Ala Phe Ser Cys Gly Thr Asn Gly Ser
 65 70 75 80
 Lys Thr Thr Ser Thr Asp Ile Thr Glu Lys Lys Val Ile Val Gln Val
 85 90 95
 Pro Gln Phe Asp Ala Asp Ser Ala Tyr Lys Tyr Ile Gln Ala Gln Val
 100 105 110
 Asp Phe Gly Pro Arg Thr Pro Asn Ser Lys Gly His Val Ala Cys Gly
 115 120 125
 Asp Tyr Leu Ala Ala Lys Leu Ala Glu His Gly Ala Lys Val Ile Ser
 130 135 140
 Gln Asn Ala Glu Leu Pro Ala Tyr Asp Gly Thr Leu Leu Lys Ala Arg
 145 150 155 160
 Asn Ile Ile Gly Ser Phe Lys Pro Glu Ser Lys Lys Arg Ile Ala Leu
 165 170 175
 Phe Ala His Trp Asp Thr Arg Pro Trp Ala Asp Asn Asp Pro Asn Glu
 180 185 190
 Lys Asn His His Thr Pro Ile Leu Gly Ala Asn Asp Gly Ala Ser Gly
 195 200 205
 Val Gly Val Leu Leu Glu Ile Ala Arg Gln Ile Asn Gln Gln Gln Pro
 210 215 220
 Glu Leu Gly Ile Asp Ile Ile Phe Leu Asp Ala Glu Asp Tyr Gly Ala
 225 230 235 240
 Pro Gln Phe Tyr Thr Gly Glu His Arg Glu Asp Gln Trp Cys Leu Gly
 245 250 255
 Ala Gln Tyr Trp Ala Arg Thr Pro His Val Asp Gly Tyr Asn Ala Arg
 260 265 270
 Phe Gly Ile Leu Leu Asp Met Val Gly Gly Lys Asp Ala Thr Phe Phe
 275 280 285
 Lys Glu Val Tyr Ser Glu Lys Tyr Ala Lys Gly Ile Asn Lys Lys Val
 290 295 300
 Trp Lys Lys Ala Asn Asp Ala Gly Tyr Gly Arg Tyr Phe Ile Asn Glu
 305 310 315 320
 Val Gly Gly Gln Ile Thr Asp Asp His Leu Phe Ile Asn Arg Leu Ala
 325 330 335
 Gly Ile Pro Thr Ile Asp Ile Ile Pro Asn Asp Glu Asn Cys Glu Leu
 340 345 350
 Ser Ser Phe Gly Pro Thr Trp His Thr Val Asn Asp Asn Met Asp Ala
 355 360 365
 Ile Asp Arg Ser Thr Leu Lys Ala Val Gly Gln Thr Val Leu Glu Val
 370 375 380
 Ile Tyr Asn Glu Lys
 385

<210> 9141

<211> 348

<212> PRT

<213> B.fragilis

<400> 9141

Met Pro Ser Gly Ser Phe Gly Ile Lys Ile Val Thr Gly Asp Thr Pro
 1 5 10 15
 Gly Thr Ala Thr Glu Ile Ala Arg Gln Ile Gly Leu Trp Lys Pro Glu
 20 25 30
 Asp Thr Glu Arg Asn Arg Ile Thr Gly Val Ala Phe Ala Glu Leu Ser
 35 40 45
 Asp Glu Glu Ala Leu Asp Arg Val Met Asp Leu Lys Ile Met Ser Arg
 50 55 60
 Ala Arg Pro Thr Asp Lys Gln Arg Leu Val Gln Leu Leu Gln Gln Lys
 65 70 75 80
 Gly Ala Val Val Ala Val Thr Gly Asp Gly Thr Asn Asp Ala Pro Ala
 85 90 95
 Leu Asn His Ala Gln Val Gly Leu Ser Met Gly Thr Gly Thr Ser Val
 100 105 110
 Ala Lys Glu Ala Ser Asp Ile Thr Leu Leu Asp Asp Ser Phe Asn Ser
 115 120 125
 Ile Gly Thr Ala Val Met Trp Gly Arg Ser Leu Tyr Lys Asn Ile Gln
 130 135 140
 Arg Phe Ile Val Phe Gln Leu Thr Ile Asn Phe Val Ala Leu Leu Ile
 145 150 155 160
 Val Leu Leu Gly Ser Ile Val Gly Thr Glu Leu Pro Leu Thr Val Thr
 165 170 175
 Gln Met Leu Trp Val Asn Leu Ile Met Asp Thr Phe Ala Ala Leu Ala
 180 185 190
 Leu Ala Ser Ile Pro Pro Ser Glu Ser Val Met Asn Asp Lys Pro Arg
 195 200 205
 Arg Ser Thr Asp Phe Ile Ile Ser Lys Ala Met Gln His Asn Ile Phe
 210 215 220
 Gly Val Gly Thr Leu Phe Leu Val Val Leu Met Ala Met Ile Tyr Tyr
 225 230 235 240
 Phe Thr Asn Ala Asp Gly Gly Met Thr Val Gln Arg Leu Thr Ile Phe
 245 250 255
 Phe Thr Phe Phe Val Met Leu Gln Phe Trp Asn Leu Phe Asn Ala Arg
 260 265 270
 Val Phe Gly Thr Thr Asp Ser Ala Phe Lys Gly Leu Thr Lys Ser Tyr
 275 280 285
 Gly Met Glu Leu Ile Val Leu Ala Ile Leu Gly Gly Gln Phe Leu Ile
 290 295 300
 Val Gln Phe Gly Gly Ala Val Phe Arg Thr Glu Pro Leu Asp Trp Gln
 305 310 315 320
 Thr Trp Leu Ile Ile Gly Ser Ser Ser Leu Val Leu Trp Ile Gly
 325 330 335
 Glu Leu Ile Arg Leu Val Lys Arg Leu Thr Gln Lys
 340 345

<210> 9142

<211> 145

<212> PRT

<213> B.fragilis

<400> 9142

Leu Phe Ile Met Ser Ile Asn Glu Leu Gln Asp Glu Val Val Ala Glu
 1 5 10 15

Phe Ser Asp Phe Asp Asp Trp Met Asp Arg Tyr Gln Leu Leu Ile Asp
 20 25 30
 Leu Gly Asn Glu Gln Glu Pro Leu Asp Glu Lys Tyr Lys Thr Glu Gln
 35 40 45
 Asn Leu Ile Glu Gly Cys Gln Ser Arg Val Trp Leu Gln Ala Asp Glu
 50 55 60
 Val Asp Gly Lys Ile Ile Phe Lys Ala Glu Ser Asp Ala Leu Ile Val
 65 70 75 80
 Lys Gly Ile Ile Ala Leu Leu Ile Lys Val Val Ser Gly His Thr Pro
 85 90 95
 Asp Glu Ile Leu Asn Ser Glu Leu Tyr Phe Ile Asp Arg Ile Gly Leu
 100 105 110
 Lys Asp His Leu Ser Pro Thr Arg Ser Asn Gly Leu Leu Ser Met Val
 115 120 125
 Lys Gln Met Arg Met Tyr Ala Leu Ala Phe Lys Ala Lys Glu Ala Lys
 130 135 140
 Gly
 145

<210> 9143

<211> 130

<212> PRT

<213> B.fragilis

<400> 9143

Lys Leu Ile Ile Met Asn Phe Pro Gln Asn Val Lys Tyr Thr Asn Glu
 1 5 10 15
 His Glu Trp Ile Arg Leu Glu Gly Asp Val Ala Tyr Val Gly Ile Thr
 20 25 30
 Asp Tyr Ala Gln Glu Gln Leu Gly Asp Ile Val Phe Val Asp Ile Pro
 35 40 45
 Thr Glu Gly Glu Thr Leu Glu Ala Gly Glu Val Phe Gly Thr Ile Glu
 50 55 60
 Val Val Lys Thr Ile Ser Asp Leu Phe Leu Pro Val Ala Gly Glu Val
 65 70 75 80
 Val Glu Gln Asn Pro Ala Leu Glu Glu Asn Pro Glu Leu Val Asn Lys
 85 90 95
 Asp Pro Tyr Gly Glu Gly Trp Leu Ile Lys Met Lys Pro Ala Asn Ala
 100 105 110
 Ala Asp Leu Asp Asn Leu Leu Asp Ala Glu Gly Tyr Lys Ala Val Val
 115 120 125
 Asn Ala
 130

<210> 9144

<211> 180

<212> PRT

<213> B.fragilis

<400> 9144

Ser Ser His Met Thr Lys Ile Tyr Thr Leu Leu Leu Cys Leu Phe
 1 5 10 15
 Ala Leu Thr Leu Pro Val Thr Ala Arg Glu Ala Glu Phe Lys Lys Ile
 20 25 30
 Lys Glu Ser Trp Thr Leu Gln Ala Asp Gly Thr Gln Val Tyr Arg Gln
 35 40 45
 Ser Lys Val Leu Thr Leu Tyr Thr His Thr Ala Met Asn Arg Thr Tyr
 50 55 60
 Gly Glu Ser Phe Ile Thr Tyr Asp Pro Arg Tyr Gln Thr Leu Gln Ile

65	70	75	80												
His	Glu	Ser	Tyr	Thr	Arg	Gln	Lys	Asp	Gly	Asn	Ile	Val	Lys	Thr	Pro
85							90							95	
Ala	Asn	Ala	Leu	Val	Glu	Val	Leu	Pro	Ser	Ala	Ala	Ala	Asn	Ala	Pro
100							105							110	
Ala	Phe	Asn	Ala	Leu	Arg	Glu	Met	Val	Val	Val	His	Thr	Gly	Leu	Glu
115							120						125		
Leu	Gly	Ala	Thr	Ile	Tyr	Leu	Asp	Tyr	Ser	Ile	Thr	Thr	Lys	Pro	Gly
130							135						140		
Tyr	Leu	Pro	Gly	Ile	Gln	Ile	Cys	Arg	Leu	Leu	Glu	His	Ser	Ser	Pro
145							150					155			160
Val	Lys	Glu	Tyr	Glu	Ile	Ser	Ile	Thr	Val	Pro	Arg	Gly	Ala	Thr	Ser
165							170							175	
Gly	Ile	Cys	Pro												
180															

<210> 9145

<211> 235

<212> PRT

<213> B.fragilis

<400> 9145

Lys	Ser	Ile	Ile	Lys	Glu	Thr	Asn	Lys	Met	Ala	Glu	Glu	Glu	Lys	Ile
1									5		10			15	
Glu	Gln	His	Ile	Ile	Ala	Asp	Arg	Thr	Leu	Ile	Arg	Thr	Ala	Arg	Ile
									20		25			30	
Ile	Ser	Gly	Ile	Leu	Thr	Pro	Phe	Ser	Ile	Pro	Phe	Leu	Ala	Phe	Leu
									35		40			45	
Val	Leu	Phe	Leu	Phe	Ser	Tyr	Leu	Arg	Ile	Met	Pro	Leu	Gln	Tyr	Lys
									50		55			60	
Leu	Ile	Val	Leu	Gly	Ile	Val	Tyr	Cys	Phe	Thr	Ile	Leu	Met	Pro	Thr
									65		70			75	
Met	Thr	Ile	Phe	Leu	Phe	Arg	Lys	Val	Asn	Gly	Phe	Ala	Arg	Gln	Asp
									85		90			95	
Leu	Ser	Asp	Arg	Lys	Lys	Arg	Tyr	Val	Pro	Ile	Leu	Leu	Thr	Ile	Ile
									100		105			110	
Ser	Tyr	Val	Phe	Cys	Leu	Met	Met	Met	His	Lys	Leu	Asn	Ile	Pro	Trp
									115		120			125	
Tyr	Met	Thr	Gly	Ile	Ile	Leu	Ala	Ser	Leu	Val	Val	Leu	Val	Ile	Cys
									130		135			140	
Ile	Ile	Val	Asn	Leu	Lys	Trp	Lys	Leu	Ser	Glu	His	Met	Ala	Gly	Met
									145		150			155	
Gly	Gly	Ile	Val	Gly	Gly	Leu	Val	Ser	Phe	Ser	Ala	Leu	Phe	Ser	Tyr
									165		170			175	
Asn	Pro	Val	Trp	Trp	Leu	Cys	Leu	Phe	Ile	Leu	Val	Ala	Gly	Ile	Leu
									180		185			190	
Gly	Ser	Ala	Arg	Ile	Ile	Leu	Gln	His	His	Thr	Leu	Gly	Glu	Val	Leu
									195		200			205	
Ala	Gly	Phe	Thr	Val	Gly	Phe	Val	Cys	Ser	Leu	Leu	Val	Leu	His	Pro
									210		215			220	
Leu	Ser	Asn	Val	Leu	Phe	Arg	Ile	Phe	Leu	Phe					
									225		230			235	

<210> 9146

<211> 230

<212> PRT

<213> B.fragilis

<400> 9146

Asn Ser Ser Phe Thr Leu Tyr Met Ala Leu Thr Gly Glu Val Val Ala
 1 5 10 15
 Cys Leu Lys Gln His Pro Glu Ala Val Val Val Ser Gln Ser Asn His
 20 25 30
 Pro Asn Arg Val Gly Glu His Arg Ala Leu Ala His Gln Leu Thr Val
 35 40 45
 Glu Gly Leu Gln Asn Pro Val Ile Phe Phe Gln His Tyr Ala Glu Asp
 50 55 60
 Thr Ala Glu Asp Leu Gln Val Lys Ala Gly Ala Asp Met Gly Ala Leu
 65 70 75 80
 Ile Phe Asp Gly Leu Cys Asp Gly Ile Tyr Leu Phe Asn Gln Gly Lys
 85 90 95
 Leu Ser His Ala Val Ile Asp Ala Thr Ala Phe Gly Ile Leu Gln Ala
 100 105 110
 Gly Arg Ile Arg Thr Ser Lys Thr Glu Tyr Ile Ser Cys Pro Gly Cys
 115 120 125
 Gly Arg Thr Leu Phe Asn Leu Gln Ser Thr Ile Ala Arg Val Lys Glu
 130 135 140
 Ala Thr Ser His Leu Lys Gly Leu Lys Ile Gly Ile Met Gly Cys Ile
 145 150 155 160
 Val Asn Gly Pro Gly Glu Met Ala Asp Ala Asp Tyr Gly Tyr Val Gly
 165 170 175
 Ala Gly Arg Gly Lys Ile Ser Leu Tyr Lys Gln Lys Glu Cys Ile Glu
 180 185 190
 Lys Asn Ile Pro Glu Glu Ala Val Glu Lys Leu Ile Glu Leu Ile
 195 200 205
 Lys Ala Asn Gly Asp Tyr Glu Glu Lys Thr Ser Ser Leu Ser Ser Pro
 210 215 220
 Lys Glu Lys Glu Asp Lys
 225 230

<210> 9147

<211> 145

<212> PRT

<213> B.fragilis

<400> 9147

Val Asn Leu Ser Pro Val Thr Val Arg Lys Val Tyr Ala Leu Gln Pro
 1 5 10 15
 Asp Ala Ala Asn Ala Lys Asp Gly Tyr Val Val Phe Thr Leu Pro Val
 20 25 30
 Glu Arg Gly Ser Leu Ala Asp Ser Gln Tyr Val Arg Phe Asn Ser Lys
 35 40 45
 Arg Thr Ser Asn Leu Leu Pro Gly Leu Ala Gly Glu Ser Phe Thr
 50 55 60
 Tyr Thr Ile Asp Thr Pro Ala Gly Met Glu Pro Val Thr Arg Pro Met
 65 70 75 80
 Glu Lys Lys Met Asp Asn Ala Val Gly Thr Leu Thr Ile Ser Ile Arg
 85 90 95
 Pro Glu Gly Ala Lys Thr Arg Val Ile Arg Ser Leu Lys Leu Lys Lys
 100 105 110
 Gln Met Ile Arg Pro Ala Asp Tyr Ala Ala Phe Arg Gln Leu Met Thr
 115 120 125
 Glu Tyr Gly Ala Val Asp Gly Leu Thr Leu Val Tyr Arg Lys Pro Leu
 130 135 140
 Pro
 145

<210> 9148

<211> 565
 <212> PRT
 <213> B.fragilis

<400> 9148

Thr Glu Tyr Ser Phe Tyr Asp Phe Leu Lys Leu Ile Gly Ser Leu Gly
 1 5 10 15
 Leu Phe Leu Tyr Gly Met Lys Ile Met Ser Glu Gly Leu Gln Lys Val
 20 25 30
 Ala Gly Asp Arg Leu Arg Gly Ile Leu Thr Ala Met Thr Thr Asn Arg
 35 40 45
 Val Thr Gly Val Leu Thr Gly Val Leu Ile Thr Ala Leu Ile Gln Ser
 50 55 60
 Ser Ser Ala Thr Thr Val Met Val Val Ser Phe Val Asn Ala Gly Leu
 65 70 75 80
 Leu Thr Leu Ala Glu Ser Ile Ser Val Ile Met Gly Ala Asn Ile Gly
 85 90 95
 Thr Thr Val Thr Ala Trp Ile Ile Ser Ile Phe Gly Phe Lys Val Asp
 100 105 110
 Met Ala Ala Phe Ala Leu Pro Leu Leu Ala Ile Ala Leu Pro Leu Ile
 115 120 125
 Phe Ser Gly Lys Ser Asn Arg Lys Ser Ile Gly Glu Phe Ile Phe Gly
 130 135 140
 Phe Ser Phe Leu Phe Met Gly Leu Ser Tyr Leu Lys Ala Asn Ala Pro
 145 150 155 160
 Asp Leu Asn Ala Asn Pro Glu Met Leu Ala Phe Val Gln Asn Tyr Thr
 165 170 175
 Asp Met Gly Phe Phe Ser Val Leu Leu Phe Leu Phe Ile Gly Thr Ile
 180 185 190
 Leu Thr Met Ile Val Gln Ala Ser Ala Ala Thr Met Ala Ile Thr Leu
 195 200 205
 Ile Met Cys Ala Asn Gly Trp Ile Ser Leu Glu Leu Gly Ala Ala Leu
 210 215 220
 Val Leu Gly Glu Asn Ile Gly Thr Thr Ile Thr Ala Asn Leu Ala Ala
 225 230 235 240
 Leu Thr Ala Asn Ser Gln Ala Lys Arg Ala Ala Leu Ala His Phe Val
 245 250 255
 Phe Asn Val Phe Gly Val Ile Trp Val Leu Ile Ile Phe His Pro Phe
 260 265 270
 Met Val Phe Val Asn Trp Val Val Asp Thr Phe Phe His Pro Gly Ser
 275 280 285
 Ala Glu Val Ala Ile Ser Tyr Lys Leu Ser Ala Phe His Ser Ile Phe
 290 295 300
 Asn Ile Cys Asn Val Cys Leu Leu Ile Trp Gly Val Lys Leu Ile Glu
 305 310 315 320
 Arg Thr Val Cys Ala Ile Ile Arg Pro Lys Glu Glu Asp Glu Glu Pro
 325 330 335
 Arg Leu Arg Phe Ile Thr Gly Gly Met Leu Ser Thr Ala Glu Leu Ser
 340 345 350
 Ile Leu Gln Ala Arg Lys Glu Ile His Leu Phe Ser Glu Arg Ile His
 355 360 365
 Arg Met Phe Gly Met Val Gln Asp Leu Leu His Thr Glu Lys Asp Asp
 370 375 380
 Asp Phe Asn Lys Leu Phe Ser Arg Ile Glu Lys Tyr Glu Asn Ile Ser
 385 390 395 400
 Asp Asn Met Glu Leu Glu Ile Ala Asn Tyr Leu Asn Gln Val Ser Glu
 405 410 415
 Gly Arg Leu Ser Ser Glu Ser Lys Leu Gln Ile Arg Ala Met Leu Arg
 420 425 430

<210> 9149

<211> 551

<212> PRT

<213> B.fragilis

<400> 9149

Met	Ile	Cys	Ser	Phe	Phe	Phe	Ile	Tyr	Phe	Cys	Pro	Leu	Arg	Ile	Leu
1				5					10					15	
Ile	Ile	Asn	Leu	Thr	Ile	Met	Lys	Arg	Lys	Ala	Thr	Leu	Leu	Phe	Leu
				20					25					30	
Val	Thr	Phe	Val	Leu	Leu	Leu	Gly	Ala	Val	Ala	Gln	Glu	Lys	Leu	Lys
					35			40				45			
Thr	Val	Ile	Glu	Pro	Leu	Gln	Asn	Glu	Arg	Trp	Trp	Gly	Gly	Phe	Val
					50			55			60				
Ala	Leu	Gly	Asn	Gln	Met	Pro	Phe	Asn	Asp	His	Leu	Arg	Met	Gln	Asp
					65			70			75			80	
Met	Ser	Arg	Asn	Asn	Met	Asn	Asn	Gln	Val	Val	Pro	Phe	Met	Leu	Ser
					85				90				95		
Ser	Glu	Gly	Arg	Tyr	Ile	Trp	Ala	Glu	Asn	Pro	Phe	Cys	Phe	Glu	Val
					100			105				110			
Lys	Asp	Gly	Gln	Leu	Ile	Ile	Tyr	Ser	Asp	Ser	Glu	Lys	Ile	Glu	Pro
					115			120				125			
Val	Lys	Ala	Gly	Thr	Thr	Leu	Lys	Glu	Ala	Leu	Leu	Ala	Ala	Ser	Ala
					130			135			140				
Lys	His	Phe	Pro	Pro	Ser	Gly	Lys	Ile	Pro	Glu	Pro	Thr	Phe	Phe	Ser
					145			150			155			160	
Leu	Pro	Gln	Tyr	Asn	Thr	Trp	Ile	Glu	Leu	Met	Tyr	Asp	Gln	Asn	Gln
					165				170				175		
Glu	Asp	Ile	Met	Asn	Tyr	Ala	His	Lys	Ala	Val	Glu	Asn	Gly	Phe	Pro
					180			185				190			
Gln	Gly	Val	Phe	Met	Val	Asp	Asp	Asn	Trp	Gln	Arg	Tyr	Tyr	Gly	Asn
					195			200				205			
Phe	Asp	Phe	Lys	Thr	Glu	Arg	Phe	Pro	Asp	Pro	Lys	Gly	Met	Thr	Asp
					210			215			220				
Glu	Leu	His	Arg	Met	Gly	Phe	Lys	Val	Met	Leu	Trp	Val	Ala	Pro	Tyr
					225			230			235			240	
Val	Ser	Pro	Asp	Ser	Pro	Glu	Phe	Arg	Glu	Leu	Glu	Ala	Lys	Gly	Tyr
					245				250				255		
Leu	Leu	Lys	Asp	Lys	Asn	Gly	Arg	Thr	Ala	Ile	Ile	His	Trp	Trp	Asn
					260				265				270		

Gly Tyr Ser Ala Cys Tyr Asp Thr Thr Asn Pro Glu Ala Met Asn Tyr
 275 280 285
 Leu Lys Glu Gln Leu Lys Ala Asn Gln Glu Lys Tyr Gly Ile Asp Gly
 290 295 300
 Phe Lys Phe Asp Gly Gly Asp Val Ala Tyr Met Thr Gly Glu Tyr Thr
 305 310 315 320
 Phe His Asp Lys Asn Ala Asn Val Asn Thr Phe Met Glu Lys Trp Ala
 325 330 335
 Glu Ile Gly Leu Ser Phe Pro Tyr Asn Glu Leu Arg Ala Ser Trp Lys
 340 345 350
 Leu Gly Gly Gln Ala Leu Val Gln Arg Leu Gly Asp Lys Asp Tyr Ser
 355 360 365
 Trp Arg Ala Thr Gln Leu Leu Ile Pro Asp Met Thr Ala Ala Gly Leu
 370 375 380
 Leu Gly His Tyr Tyr Thr Cys Pro Asp Met Val Gly Gly Gln Phe
 385 390 395 400
 Gly Ala Phe Leu Asn Val Lys Lys Phe Asp Glu Glu Leu Ile Val Arg
 405 410 415
 Ser Cys Gln Val His Ala Leu Met Pro Met Met Gln Phe Ser Val Ala
 420 425 430
 Pro Trp Arg Ile Leu Ser Lys Glu Asn Val Ala Ile Cys Ala Lys Tyr
 435 440 445
 Ala His Leu His Gln Gln Met Gly Asp Tyr Ile Leu Glu Leu Ala Lys
 450 455 460
 His Ala Ser Lys Thr Gly Glu Pro Ile Val Arg His Met Glu Tyr Gln
 465 470 475 480
 Tyr Pro His Gln Gly Phe Ile Asp Cys Lys Asp Gln Phe Met Leu Gly
 485 490 495
 Asp Lys Tyr Leu Val Ala Pro Met Leu Thr Ser Gly Thr Ser Arg Thr
 500 505 510
 Val Met Leu Pro Lys Gly Arg Trp Lys Asp Asp Arg Gly Lys Val Phe
 515 520 525
 Lys Gly Pro Arg Thr Met Thr Ile Asp Val Pro Leu Glu Arg Leu Pro
 530 535 540
 Tyr Phe Glu Lys Leu Thr Lys
 545 550

<210> 9150

<211> 108

<212> PRT

<213> B.fragilis

<400> 9150

Phe Val Pro Leu His Arg Phe Lys Arg Lys Ala Leu Leu Asn Arg Ser
 1 5 10 15
 Phe Gly Glu Val Ala Glu Trp Ser Ile Ala Ala Val Leu Lys Thr Val
 20 25 30
 Val Leu Arg Gly Thr Arg Gly Ser Asn Pro Cys Leu Ser Ala Ile Asn
 35 40 45
 Ala Glu Asn Gln Gln Ile Ile Lys Gln Thr Pro Asn Phe Ile Pro Lys
 50 55 60
 Asn Val Lys Leu Gly Val Phe Ile Leu Phe Lys Thr Asn His Ile Arg
 65 70 75 80
 Ser Glu Asn Asn Leu Ile Lys Asn Arg Thr Asn Glu Lys Asn Asn Gln
 85 90 95
 Phe Ile Phe Arg Lys Ile Ser Tyr Leu Cys Ser Lys
 100 105

<210> 9151

<211> 72
<212> PRT
<213> B.fragilis

<400> 9151
Ile Thr Ile Ser Lys Lys Asn Ala Glu Ile Cys Asp Ile His Glu Lys
1 5 10 15
Leu Ser Thr His Ile Ala Arg His Ser Tyr Ala Thr Ser Ile Ser Leu
20 25 30
Thr Asn Gly Val Ser Met Glu Asn Leu Ala Lys Ile Leu Gly His Thr
35 40 45
Asp Thr Ser Ile Thr Arg Thr Leu Cys Thr Gly Ala Gly Pro Lys Tyr
50 55 60
Tyr Gly Arg Tyr Thr Glu Ser Lys
65 70

<210> 9152
<211> 464
<212> PRT
<213> B.fragilis

<400> 9152
Gly Pro Ala Ser Val Phe Leu Lys Lys Phe Ile Asn Asn Ser Asp Ser
1 5 10 15
Phe Cys Val Ser Pro Tyr Phe Gly Val Ile Cys Gly His Glu Thr Ile
20 25 30
Gln Thr Tyr Met Glu Phe Leu Val Ile Ile Leu Leu Leu Val Leu Asn
35 40 45
Gly Ile Phe Ala Met Tyr Glu Ile Ala Leu Val Ser Ser Ser Lys Ala
50 55 60
Arg Leu Glu Thr Leu Val Ser Lys Gly Asn Lys Ser Ala Arg Gly Val
65 70 75 80
Leu Lys Gln Leu Glu Glu Pro Glu Lys Phe Leu Ser Thr Ile Gln Ile
85 90 95
Gly Ile Thr Leu Ile Gly Ile Val Ser Gly Ala Phe Gly Gly Val Ala
100 105 110
Ile Ala Asp Asp Val Thr Pro Leu Phe Ala Met Ile Pro Gly Ala Glu
115 120 125
Val Tyr Ala Lys Asp Leu Ala Met Ile Thr Thr Val Ile Val Ile Thr
130 135 140
Tyr Leu Ser Leu Ile Ile Gly Glu Leu Val Pro Lys Ser Ile Ala Leu
145 150 155 160
Ser Asn Pro Glu Arg Tyr Ala Thr Leu Leu Ser Pro Val Met Ile Leu
165 170 175
Leu Thr Lys Ile Ser Phe Pro Phe Val Trp Leu Leu Ser Ile Ser Thr
180 185 190
Arg Leu Leu Asn Lys Leu Ile Gly Leu Lys Ser Glu Glu Arg Leu Met
195 200 205
Thr Gln Glu Glu Leu Lys Met Ile Leu His Gln Ser Phe Asp Gln Gly
210 215 220
Val Ile Asp Lys Glu Lys Thr Glu Met Leu Arg Asp Val Phe Arg Phe
225 230 235 240
Ser Asp Lys Arg Ala Asn Glu Leu Met Thr His Arg Arg Asp Leu Val
245 250 255
Val Leu His Thr Thr Asp Ser Lys Glu Lys Val Leu Gln Ile Ile Asp
260 265 270
Asn Glu His Phe Ser Lys Tyr Leu Leu Ile Asp Asp Asp Thr Asp Glu
275 280 285
Ile Ala Gly Val Val Ser Val Lys Asp Ile Ile Leu Met Ile Gly Ser

290	295	300
Glu Gln Glu Phe Asn Leu Arg Glu Ile Ala Arg Pro Ala Leu Phe Ile		
305	310	315
Pro Glu Ser Leu Tyr Ala Lys Lys Val Leu Glu Leu Phe Lys Lys Asn		320
325	330	335
Lys Asn Lys Phe Gly Val Val Asn Glu Tyr Gly Ser Thr Glu Gly		
340	345	350
Ile Ile Thr Leu His Asp Leu Thr Glu Ser Ile Phe Gly Asp Ile Leu		
355	360	365
Glu Glu Asp Asp Thr Glu Glu Glu Ile Val Arg Arg Gln Asp Gly		
370	375	380
Ser Leu Leu Val Glu Ala Ser Met Asn Ile Gly Asp Phe Met Glu Glu		
385	390	395
Met Gly Ile Leu Ser Tyr Asp Asp Ile Glu Ser Glu Asp Phe Thr Thr		400
405	410	415
Leu Gly Gly Leu Ala Met Phe Leu Ile Gly Arg Ile Pro Lys Ala Gly		
420	425	430
Asp Ile Phe Thr Tyr Lys Asn Leu Gln Phe Glu Val Val Asp Met Asp		
435	440	445
Arg Gly Arg Val Asp Lys Leu Leu Val Ile Lys Arg Glu Glu Glu Glu		
450	455	460

<210> 9153

<211> 97

<212> PRT

<213> B.fragilis

<400> 9153

Tyr Ser Gln Ser Met Arg Phe Tyr Phe Asn Asp Leu Phe Ser Ala Leu			
1	5	10	15
Pro His Ile Gln His Asn Ser Leu Ser Arg His Asn Leu Tyr Phe Val			
20	25	30	
Gln Gln Ile Pro Arg Val Asn Arg Pro Gln Glu Arg Gly Tyr Ser Gln			
35	40	45	
Gly Lys Lys Ser Tyr Asp Asn Ile His Asn Lys Asn Val Tyr Val Asp			
50	55	60	
Pro Leu Pro His Lys Tyr Ile His Tyr His Lys Pro His Ile Ser Lys			
65	70	75	80
Thr Leu Tyr His His Leu His Tyr Val Pro Asn Asp Glu Arg Gln Thr			
85	90	95	
Lys			

<210> 9154

<211> 469

<212> PRT

<213> B.fragilis

<400> 9154

Asn Cys Lys Ser Leu Ile Ile Ile Tyr Tyr Leu Lys Arg Arg Val Asn			
1	5	10	15
Leu Asn Leu Ser Glu Tyr Leu Leu Leu Phe Gln Ile Leu Gly Val Tyr			
20	25	30	
Leu Gly Val Glu Phe Gln Thr His Pro Ile Met Asn Ile Lys Arg Asn			
35	40	45	
Ile Ile Phe Ala Leu Glu Ser Arg Lys Lys Asn Gly Val Pro Ile Val			
50	55	60	
Glu Asn Val Pro Ile Arg Met Arg Val Ile Tyr Ala Ser Gln Arg Ile			
65	70	75	80

Glu Phe Thr Thr Gly Tyr Arg Ile Asp Val Ala Lys Trp Asp Ala Asp
 85 90 95
 Lys Gln Arg Val Lys Asn Gly Cys Thr Asn Lys Leu Lys Gln Ser Ala
 100 105 110
 Ser Glu Ile Asn Ala Asp Leu Leu Lys Tyr Tyr Ala Glu Ile Gln Asn
 115 120 125
 Val Phe Lys Glu Phe Glu Val Gln Glu Thr Ile Pro Thr Thr Gln Gln
 130 135 140
 Leu Lys Asp Ala Phe Asn Leu Arg Met Lys Asp Thr Ser Glu Glu Gln
 145 150 155 160
 Gln Glu Glu Thr Gln Ile Ser Phe Trp Glu Val Phe Asp Glu Phe Val
 165 170 175
 Lys Glu Cys Gly Asn Gln Asn Asn Trp Thr Ala Ser Thr Tyr Glu Lys
 180 185 190
 Phe Ser Ala Val Lys Asn His Leu Lys Glu Phe Lys Glu Asp Val Thr
 195 200 205
 Phe Glu Tyr Phe Asn Glu Phe Gly Leu Asn Glu Tyr Val Asn Phe Leu
 210 215 220
 Arg Asp Lys Lys Asp Met Arg Asn Ser Thr Ile Gly Lys Gln Met Gly
 225 230 235 240
 Phe Leu Lys Trp Phe Leu Arg Trp Ser Phe Lys Lys Gly His His Gln
 245 250 255
 Asn Ile Ala Tyr Asp Thr Phe Lys Pro Lys Leu Lys Thr Thr Ser Lys
 260 265 270
 Lys Val Ile Phe Leu Thr Trp Asp Glu Leu Asn Arg Leu Lys Asp Tyr
 275 280 285
 Arg Ile Pro Lys Asp Lys Gln Tyr Leu Glu Arg Val Arg Asp Val Phe
 290 295 300
 Leu Phe Cys Cys Phe Thr Ser Leu Arg Tyr Ser Asp Val Arg Asn Leu
 305 310 315 320
 Lys Arg Ser Asp Val Lys Pro Asp His Ile Glu Val Thr Thr Val Lys
 325 330 335
 Thr Ala Asp Ser Leu Ile Ile Glu Leu Asn Asp His Ser Lys Thr Ile
 340 345 350
 Leu Glu Lys Tyr Lys Glu Val His Phe Glu Asn His Met Ala Leu Pro
 355 360 365
 Val Ile Ser Asn Gln Lys Met Asn Asp Tyr Leu Lys Glu Leu Gly Glu
 370 375 380
 Leu Ala Glu Ile Asn Glu Pro Val Arg Glu Thr Tyr Tyr Lys Gly Asn
 385 390 395 400
 Glu Arg Ile Asp Glu Val Thr Pro Lys Tyr Ala Leu Leu Thr Thr His
 405 410 415
 Ala Gly Arg Arg Thr Phe Ile Cys Asn Ala Leu Ala Leu Gly Ile Pro
 420 425 430
 Ala Gln Val Val Met Lys Trp Thr Gly His Ser Asp Tyr Lys Ala Met
 435 440 445
 Lys Pro Tyr Ile Asp Ile Ala Asp Asp Ile Lys Ala Asn Ala Met Asn
 450 455 460
 Lys Phe Asn Gln Leu
 465

<210> 9155

<211> 713

<212> PRT

<213> B.fragilis

<400> 9155

Leu	Arg	Lys	Ser	Arg	Trp	Gln	Met	Gln	Arg	Leu	Phe	Leu	Leu	Arg	Leu
1															

Gln Ile Pro Pro Ile Cys Pro Ile Ile Met His Ile Trp Leu Ile Trp
 20 25 30
 Asn Ser Lys Pro Tyr Lys Arg Ile Val Thr Met Lys Gln Ile Leu His
 35 40 45
 Ile Leu Leu Ile Ala Leu Met Leu Met Gly Phe Tyr Ser Cys Val Pro
 50 55 60
 Lys Thr Glu Leu Ala Ser Pro Asp Gly His Ile Lys Val Ala Phe Thr
 65 70 75 80
 Ala Asp Thr Asp Gly Lys Met Met Tyr Arg Val Thr Val Asn Asp Thr
 85 90 95
 Leu Leu Leu Asp Asn Ser Pro Leu Gly Phe Glu Ala Lys Glu Gly Ile
 100 105 110
 Asp Leu Asn Arg Gly Phe Arg Val Val Asn Thr Val Phe Thr Asp Lys
 115 120 125
 Asp Glu Ile Trp Thr Gln Pro Trp Gly Glu Asn Lys Thr Asn Arg Asn
 130 135 140
 His Tyr Asn Glu Met Ala Val Leu Leu Lys Asn Ala Ala Asn Val Glu
 145 150 155 160
 Leu Thr Leu Arg Phe Arg Ala Phe Asp Asp Gly Val Ala Phe Arg Tyr
 165 170 175
 Glu Tyr Glu Val Pro Gly Val Asp Ser Leu Leu Ile Thr Asp Glu Leu
 180 185 190
 Thr Ala Phe His Phe His Glu Asp Gly Thr Ser Trp Ser Ile Pro Ala
 195 200 205
 Ser Phe Glu Thr Tyr Glu Leu Leu Tyr Ser Lys Gln Lys Ile Ser Glu
 210 215 220
 Val Glu Asn Ala Asn Thr Pro Phe Thr Phe Lys Thr Ser Gly Gly Val
 225 230 235 240
 Tyr Gly Ser Ile His Glu Ala Ala Leu Tyr Asp Phe Pro Glu Met Thr
 245 250 255
 Leu Lys Lys Asp Gly Glu Asn Thr Leu Lys Ser Glu Leu Ala Ser Trp
 260 265 270
 Pro Asp Gly Ile Lys Ala Arg Lys Glu Asn Arg Phe Thr Thr Ala Trp
 275 280 285
 Arg Thr Ile Gln Ile Ala Pro Gln Ala Val Gly Leu Ile Asn Ser Ser
 290 295 300
 Leu Ile Leu Asn Leu Asn Glu Pro Cys Lys Leu Asp Thr Thr Asp Trp
 305 310 315 320
 Ile Lys Pro Met Lys Tyr Val Gly Val Trp Trp Gly Met His Leu Gly
 325 330 335
 Val Glu Thr Trp Lys Met Asp Asp Arg His Gly Ala Thr Thr Ala Asn
 340 345 350
 Ala Lys Lys Tyr Ile Asp Phe Ala His Ala Asn Asn Ile Glu Gly Val
 355 360 365
 Leu Phe Glu Gly Trp Asn Glu Gly Trp Glu Ser Trp Gly Gly Met Gln
 370 375 380
 Ser Phe Asp Phe Thr Lys Pro Tyr Ala Asp Phe Asp Met Asp Glu Ile
 385 390 395 400
 Thr Arg Tyr Ala Arg Glu Lys Asn Val Gln Ile Ile Gly His His Glu
 405 410 415
 Thr Gly Gly Asn Ile Pro Asn Tyr Glu Arg Gln Met Glu Lys Ala Ile
 420 425 430
 Lys Trp Tyr Thr Asp Lys Gly Ile His Ile Leu Lys Thr Gly Tyr Ala
 435 440 445
 Gly Ala Phe Pro Asp Gly His Ser His His Gly Gln Tyr Gly Val Asn
 450 455 460
 His Tyr Gln Lys Val Val Glu Thr Ala Ala Arg Tyr Arg Met Thr Leu
 465 470 475 480
 Asp Ala His Glu Pro Ile Lys Asp Thr Gly Ile Arg Arg Thr Trp Pro

485	490	495
Asn Met Met Thr Arg Glu Gly Ala Arg	Gly Met Glu Trp Asn Ala Trp	
500	505	510
Ser Glu Gly Asn Pro Pro Ser His His	Glu Met Leu Pro Phe Thr Arg	
515	520	525
Leu Leu Gly Gly Pro Met Asp Tyr Thr Pro Gly	Thr Phe Asp Ile Leu	
530	535	540
Phe Thr Gln Thr Lys Asp Ser Pro Lys Arg	Gln Lys Trp Asn Asp Gln	
545	550	555
Asp Lys Gly Asn Ser Arg Val Asn Thr	Thr Leu Ala Lys Gln Leu Ala	
565	570	575
Asn Trp Val Ile Leu Tyr Ser Pro Leu	Gln Met Ala Ser Asp Met Ile	
580	585	590
Glu His Tyr Glu Gly His Pro Ala Phe	Gln Phe Arg Asp Phe Asp	
595	600	605
Pro Asp Cys Asp Glu Ser Arg Ala Leu Ala	Gly Glu Pro Gly Glu Phe	
610	615	620
Val Ala Val Val Arg Lys Ala Lys Gln	Asn Tyr Phe Leu Gly Ala Ser	
625	630	635
Thr Asn Glu Glu Pro Arg Val Leu Pro	Val Ser Leu Asp Phe Leu Glu	
645	650	655
Lys Gly Lys Ile Tyr Lys Ala Ile Ile	Tyr Ala Asp Gly Glu Lys Ala	
660	665	670
Asp Trp Lys Thr Asn Pro Thr Glu Tyr Gln	Ile Thr Glu Gln Glu Val	
675	680	685
Thr Ala Asp Asp Thr Leu Asn Ile Arg	Met Ala Ala Gly Gly Gly Gln	
690	695	700
Ala Ile Ser Phe Met Pro Leu Gln Lys		
705	710	

<210> 9156

<211> 620

<212> PRT

<213> B.fragilis

<400> 9156

Leu Lys Met Ser Ile Met Asp Asn Lys	Gly Phe Tyr Ile Lys Ala Ile	
1	5	10
Leu Ala Thr Gly Thr Lys Val Gln Asp	Ser Arg Val Asp Phe Asn Lys	
20	25	30
Gly Cys Asn Leu Ile His	Gly Gln Ser Asp Thr Gly Lys Ser Val Val	
35	40	45
Phe Ser Ile Ile Gln Tyr Leu	Leu Gly Gln Glu Asp Pro Pro Lys Glu	
50	55	60
Ala Thr Glu Gly Lys Glu Tyr Asp	Thr Phe Tyr Met Gln Ile Cys Met	
65	70	75
Tyr Phe Asn Asp Glu Asp Val	Tyr Thr Ile Gln Arg Lys Leu Thr Asp	
85	90	95
Lys Thr Lys Val Tyr Val Lys His	Cys Ser Ile Asp Gln Ile His Asp	
100	105	110
Met His Ile Lys Gln Glu Ile	Tyr Ser Val Lys Ser Ser Glu Lys Pro	
115	120	125
Ser Ser Tyr Ser Ser Phe Leu	Leu Lys Leu Cys Gly Phe Asp Asn Thr	
130	135	140
Ile Lys Ile Lys Gln Lys Asp	Ser Lys Phe Ser Asn Leu Tyr Tyr Thr	
145	150	155
Gln Leu Arg His Leu Leu Met Leu	Gly Glu Gln Arg Ile Val Asp Asp	
165	170	175
Arg Ser Ile Phe Leu Pro Ser Gly	Ile Pro Ser Asp Val Thr Lys Glu	

180	185	190
Lys Ser Val Ile Ser Tyr Leu Tyr Ser Gly Glu Gly Asp Pro Glu Ile		
195	200	205
Asp Gly Leu Glu Asp Lys Lys Leu Arg Lys Ala Arg Ile Thr Gly Lys		
210	215	220
Ile Glu Tyr Val Gln Glu Glu Ile Lys Arg Leu Asp Gln Thr Ile Glu		
225	230	235
Asp Ile Gly Asp Val Ser Phe Ala Gly Leu Glu Glu Ala Leu Asn Val		
245	250	255
Asn Lys Ile Lys Ser Glu Ile Lys Asn Ala Ala Gln Arg Leu Asp Ile		
260	265	270
Leu Tyr Lys Gln Lys His Thr Lys Asn Glu Glu Leu Asp Lys Trp Gln		
275	280	285
Ser Lys Ile Leu Phe Glu Gln Glu Leu Tyr Asn Arg Leu Leu Leu		
290	295	300
Lys Ser His Tyr Glu Leu Asp Ile Glu Arg Tyr Lys Gly Ile Glu Glu		
305	310	315
Ala Arg Glu Leu Leu Ser Ile Leu Thr Tyr Arg Glu Cys Pro Lys Cys		
325	330	335
His Thr Lys Leu Gln Thr Asp Ser Phe Asp Leu Glu Asp Glu Gln Phe		
340	345	350
Ile Ala Ala Ile Glu Gln Glu Ser Phe Ser Asp Gln Cys Lys Leu Arg		
355	360	365
Ser Leu Asn Glu Tyr Ile Lys Glu Lys Lys Ala Tyr Leu Lys Lys Cys		
370	375	380
Lys Glu Lys Ile Asp Lys Leu Glu Ile Glu Asn Ile Ser Ile Asn Asn		
385	390	395
Gln Ile Ser Glu Thr Glu Pro Arg Leu Thr Ser Phe Arg Asp Leu Leu		
405	410	415
Lys Arg Ile Glu Leu Asn Trp Glu Lys Lys Thr Arg Leu Lys His Leu		
420	425	430
Glu Glu Asp Ser Phe Arg Leu Thr Lys Glu Leu Ser Glu Leu Lys Lys		
435	440	445
Ser Leu Thr Asn Lys Gln Val Leu Thr Ile Pro Ser Arg Asn Lys Leu		
450	455	460
Pro Ala Lys Glu Phe Tyr Asp Thr Val Lys Glu Lys Met Val Ala Trp		
465	470	475
Asn Leu Glu Asn His Glu Thr Ile Val Met Asn Leu Asp Asp Phe Asp		
485	490	495
Phe Thr Leu Gly Gly Lys Arg Arg Ile Thr Cys Gly Lys Gly Tyr Arg		
500	505	510
Gly Ile Thr Ala Thr Ala Ile Met Met Ser Leu Val Glu Asp Cys Ile		
515	520	525
Tyr Arg Asn Val Pro Phe Thr Arg Leu Leu Val Thr Asp Ser Pro Ile		
530	535	540
Thr Ala His Phe Gly Lys Glu Asp Lys Lys Thr Asp Ala Asp Asp Leu		
545	550	555
Glu Glu Asn Val Gln Arg Ser Phe Phe Gln Tyr Met Glu Asp Lys Asn		
565	570	575
Trp Asn Tyr Gln Leu Ile Met Met Asp Asn Lys His Pro Tyr Thr Asp		
580	585	590
Gln Lys Lys Ile Met Lys Asn Ile His Phe Ile Glu Phe Ser Glu Thr		
595	600	605
Gly Arg Lys Gly Phe Tyr Val Gly Lys Arg Lys Glu		
610	615	620

<210> 9157

<211> 74

<212> PRT

<213> B.fragilis

<400> 9157

His	Pro	Ser	Ser	Ile	Arg	Leu	Leu	Met	Leu	Gly	Met	Ser	Ala	Leu	Gly
1				5				10						15	
Thr	Leu	Tyr	Ala	Pro	Gln	Pro	Ser	Asn	Ala	Ile	Asn	Thr	Thr	Cys	Phe
		20					25						30		
Ala	Cys	Arg	Leu	Ala	Ala	Gln	Ala	Thr	Leu	Gln	Asn	Pro	Ile	Ala	Ser
	35					40					45				
Lys	His	Thr	Lys	Thr	Asn	Asn	Phe	Phe	Met	Val	Phe	Tyr	Leu	Tyr	Leu
	50				55				60						
Ser	Phe	Val	Phe	Cys	Val	Ser	Ser	Ile	Leu						
	65				70										

<210> 9158

<211> 169

<212> PRT

<213> B.fragilis

<400> 9158

Gln	Leu	Thr	Phe	Tyr	Ile	Asn	Leu	Lys	His	Leu	Thr	Met	Lys	Lys	Val
1				5				10					15		
Ile	Met	Leu	Ala	Ala	Val	Val	Ala	Ala	Leu	Val	Ser	Cys	Gln	Ser	Lys
				20				25					30		
Gly	Thr	Lys	Ala	Glu	Glu	Ala	Val	Ala	Asp	Ser	Leu	Ala	Val	Ala	Met
		35				40			45						
Glu	Pro	Thr	Met	Glu	Glu	Thr	Gln	Val	Tyr	Glu	Gly	Val	Leu	Pro	Ala
	50				55			60							
Ala	Asp	Gly	Pro	Gly	Ile	Arg	Tyr	Val	Leu	Thr	Leu	Asn	Thr	Leu	Ala
	65				70			75				80			
Asn	Ala	Thr	Asp	Thr	Thr	Tyr	Thr	Leu	Asp	Val	Thr	Tyr	Leu	Asp	Ala
					85			90				95			
Glu	Gly	Lys	Gly	Lys	Asp	Lys	Thr	Phe	Thr	Ser	Lys	Gly	Lys	Pro	Val
		100				105					110				
Lys	Val	Glu	Lys	Thr	Val	Lys	Asp	Lys	Lys	Lys	Thr	Ala	Ile	Lys	Leu
		115				120					125				
Asn	Pro	Ser	Asp	Gly	Ser	Glu	Pro	Val	Tyr	Phe	Val	Ile	Ala	Asn	Asp
	130					135				140					
Thr	Thr	Leu	Thr	Leu	Ala	Asp	Asp	Ser	Leu	Glu	Val	Ser	Glu	Ser	Asp
	145				150				155			160			
Leu	Asn	Tyr	Asn	Ile	Ile	Arg	Val	Lys			.				
	165														

<210> 9159

<211> 391

<212> PRT

<213> B.fragilis

<400> 9159

Gln	Leu	Met	Phe	Asn	Gln	Thr	Asn	Leu	Lys	Phe	Arg	Glu	Met	Lys	Lys
1				5				10					15		
Ser	Ile	Phe	Met	Phe	Ala	Leu	Ala	Thr	Leu	Met	Ser	Ala	Ser	Val	Phe
			20				25					30			
Ala	Gln	Asp	Asn	Asp	Ala	Lys	Arg	Leu	Pro	Gly	Tyr	Lys	Thr	Thr	Phe
		35				40			45						
Glu	Gly	Asn	Gly	Phe	Trp	Asn	Asn	Trp	Phe	Met	Ser	Ala	Asn	Phe	Gly
	50					55			60						
Ala	Gln	Ser	Leu	Phe	Ala	Glu	Asn	Ser	Lys	Asp	Ala	Lys	Phe	Arg	Asn
	65				70			75			80				

Thr Ile Thr Phe Met Pro Thr Leu Ser Val Gly Lys Trp Phe Asn Pro
 85 90 95
 Tyr Trp Gly Val Arg Leu Gln Gly Thr Gly Gly Ser Leu His Gly Phe
 100 105 110
 Thr Ser Gly Ala Asn Ser Met Leu His Tyr Gln Tyr Gly Ala Val His
 115 120 125
 Ala Asp Phe Met Phe Gly Leu Ile Asn Phe Phe Ala Pro Tyr Lys Glu
 130 135 140
 Asn Arg Arg Phe Asp Ile Val Pro Phe Ala Gly Ile Gly Gly Ala Phe
 145 150 155 160
 Ile Arg Lys Gly Asp Gln Ser Phe Thr Ile Asn Ala Gly Ile Gln Ala
 165 170 175
 Arg Tyr Arg Ile Ser Lys Arg Phe Asp Ile Asn Val Glu Tyr Gln Gly
 180 185 190
 Ala Ile Leu Asp Asp Asp Met Val Val Arg Gly Gly Phe Pro Asn Asp
 195 200 205
 Gly Ile Ser Gly Leu Thr Ala Gly Val Thr Phe Arg Phe Gly Lys Thr
 210 215 220
 Gly Phe Lys Lys Gly Tyr Ser Ser Arg Gln Tyr Asn Ala Ile Lys Ser
 225 230 235 240
 Asn Tyr Ser Asp Leu Glu Ala Asn Tyr Ala Thr Leu Lys Lys Glu Asn
 245 250 255
 Ala Ala Gln Gln Ala Glu Ile Ala Glu Leu Lys Ala Arg Lys Pro Glu
 260 265 270
 Ile Val Lys Glu Glu Thr Ile Ile Asp Asn Ser Glu Ile Lys Ala Leu
 275 280 285
 Pro Ser Thr Ile Thr Phe Pro Phe Asn Ser Ser Lys Ile Glu Leu Ser
 290 295 300
 Gln Glu Val Ser Ile Phe Asn Ile Ala Glu Phe Leu Lys Ala Asn Pro
 305 310 315 320
 Glu Ile Arg Val Arg Leu Thr Gly Tyr Ala Asp Lys Arg Gly Ser Glu
 325 330 335
 Gln Ala Asn Arg Ile Val Ser Glu Arg Arg Ala Asn Ala Val Thr Glu
 340 345 350
 Val Phe Val Asn Lys Tyr Gly Ile Ala Lys Asp Arg Ile Thr Thr Glu
 355 360 365
 Phe Lys Gly Thr Ser Thr Lys Phe Glu Asn Asp Asp Trp Asn Arg Ala
 370 375 380
 Val Val Val Glu Leu Ile Lys
 385 390

<210> 9160

<211> 167

<212> PRT

<213> B.fragilis

<400> 9160

Thr Pro Asp Pro Ser Ser Asp Ala Arg Ala Val Pro Ile Tyr Gln Thr
 1 5 10 15
 Thr Ser Tyr Val Phe Arg Asp Ser Ala His Ala Ala Ala Arg Phe Gly
 20 25 30
 Leu Gln Asp Pro Gly Asn Ile Tyr Gly Arg Leu Thr Asn Ser Thr Gln
 35 40 45
 Gly Val Leu Glu Glu Arg Ile Ala Ala Leu Glu Gly Gly Val Gly Gly
 50 55 60
 Leu Ala Val Ala Ser Gly Ala Ala Ala Val Thr Tyr Ala Ile Glu Asn
 65 70 75 80
 Ile Thr Arg Ser Gly Asp His Ile Val Ala Ala Lys Thr Ile Tyr Gly
 85 90 95

Gly Thr Tyr Asn Leu Leu Ala His Thr Leu Pro Ala Tyr Gly Val Thr
 100 105 110
 Thr Thr Phe Val Asp Pro Ser Asp Leu Phe Asn Phe Glu Arg Ala Ile
 115 120 125
 Arg Glu Asn Thr Lys Ala Ile Phe Ile Glu Thr Leu Gly Asn Pro Asn
 130 135 140
 Ser Asn Ile Ile Asp Met Asp Ala Val Ala Ala Ile Ala His Lys Tyr
 145 150 155 160
 Arg Ile Pro Ala Asp Cys Gly
 165

<210> 9161
<211> 60
<212> PRT
<213> B.fragilis

<400> 9161
 Ser Tyr Leu Pro Leu Leu Phe Ser Trp Ile Met Arg Leu Leu Ser
 1 5 10 15
 Ile Cys His Ser Glu Arg Ile Gly Arg Asn Arg Ala Gly Tyr Tyr Asp
 20 25 30
 Val Ala Met Gly Lys Gln Lys Asn Pro Tyr Thr Gly Thr Tyr Phe Lys
 35 40 45
 Asp Ser Ser Leu Tyr Tyr Arg Gln Glu Gln Ser Ala
 50 55 60

<210> 9162
<211> 68
<212> PRT
<213> B.fragilis

<400> 9162
 Tyr Asn Ser Pro Gly Lys Thr Thr Asn Leu Tyr His Pro Phe Phe Ile
 1 5 10 15
 Lys Leu Tyr Gln Tyr Asn Thr Arg Lys Glu Ala Pro Lys Thr Phe Ile
 20 25 30
 Pro Asp Ala Ser Arg Pro Leu Ile Tyr Asn Leu Asn Thr Ser Ile Ala
 35 40 45
 Ser His Ile Asn Leu Ser Gln Gln Thr Arg Tyr Asn Tyr Pro Glu Ser
 50 55 60
 Asp Ser Leu Phe
 65

<210> 9163
<211> 332
<212> PRT
<213> B.fragilis

<400> 9163
 Ile Ile Lys Pro Met Lys Arg Ile Tyr Leu Leu Leu Ala Ile Leu Leu
 1 5 10 15
 Gly Ser Leu Gln Leu Ala Asn Ala Gln Gln Gln Thr Leu Gln Phe Asn
 20 25 30
 Lys Asp Gly Lys Phe Lys Ile Val Gln Phe Thr Asp Val His Tyr Ile
 35 40 45
 Tyr Asn Asp Pro Arg Ser Asp Val Ser Ile Glu Arg Ile Asn Gln Val
 50 55 60
 Leu Asp Met Glu Lys Pro Asp Leu Val Leu Phe Thr Gly Asp Val Ile
 65 70 75 80

Tyr Gly Lys Pro Ala Glu Glu Gly Met Arg Thr Val Leu Asn Leu Val
 85 90 95
 Ser Lys Arg Lys Ile Pro Phe Ala Val Thr Phe Gly Asn His Asp Asn
 100 105 110
 Glu Gln Gly Leu Ser Arg Glu Glu Leu Leu Lys Ile Ile Gln Ser Val
 115 120 125
 Pro Phe Asn Leu Thr Gln Thr Pro Gly Ile Ser Gly Val Thr Asn
 130 135 140
 Phe Ile Leu Pro Val Lys Ala Ser Asp Gly Lys Arg Asn Ala Thr Val
 145 150 155 160
 Leu Tyr Cys Ile Asp Ser His Ser Tyr Ser Gln Ile Lys Gly Val Asn
 165 170 175
 Gly Tyr Asp Tyr Ile Lys Phe Asp Gln Ile Gln Trp Tyr Arg Glu Asn
 180 185 190
 Ser Lys Lys Phe Thr Glu Glu Asn Asn Gly Val Pro Val Ser Ser Tyr
 195 200 205
 Ala Phe Phe His Ile Ala Leu Pro Glu Tyr Asn Gln Ala Ala Ser Ser
 210 215 220
 Glu Ser Ala Ile Leu Tyr Gly Ile Arg Lys Glu Lys Ala Cys Ala Pro
 225 230 235 240
 Gln Leu Asn Ser Gly Leu Phe Ala Ala Met Lys Glu Met Gly Asp Val
 245 250 255
 Arg Gly Val Phe Val Gly His Asp His Asp Asp Asp Tyr Ala Val Ser
 260 265 270
 Trp Lys Gly Ile Leu Leu Ala Tyr Gly Arg Tyr Thr Gly Gly Asn Thr
 275 280 285
 Val Tyr Asn His Leu Thr Asn Gly Ala Arg Val Ile Glu Leu Asp Glu
 290 295 300
 Asn Ala Asn Ser Phe Arg Thr Trp Ile Arg Leu Lys Glu Gly Val Val
 305 310 315 320
 Gln Gln Val Thr Tyr Pro Ala Asp Phe Ile Lys Glu
 325 330

<210> 9164

<211> 257

<212> PRT

<213> B.fragilis

<400> 9164

Leu Pro Leu Pro Ile Asn Ile Gly Phe Pro Leu Ile Val Asp Asn Thr
 1 5 10 15
 Phe Gly Thr Pro Tyr Leu Ile Arg Pro Ile Glu His Gly Ala Asp Ile
 20 25 30
 Val Val His Ser Ala Thr Lys Phe Ile Gly Gly His Gly Ser Ser Leu
 35 40 45
 Gly Gly Val Ile Val Asp Ser Gly Lys Phe Asp Trp Val Ala Ser Gly
 50 55 60
 Lys Phe Pro Gln Leu Thr Glu Pro Asp Ala Ser Tyr His Gly Val Arg
 65 70 75 80
 Phe Val Asp Ala Ala Gly Ala Ala Ala Tyr Ile Val Arg Ile Arg Ala
 85 90 95
 Val Leu Leu Arg Asp Thr Gly Ala Ala Ile Ser Pro Phe Asn Ala Phe
 100 105 110
 Ile Leu Leu Gln Gly Leu Glu Thr Leu Ser Leu Arg Val Glu Arg His
 115 120 125
 Val Ala Asn Ala Leu Lys Val Ile Asp Phe Leu Val Asn His Pro Lys
 130 135 140
 Val Ala Ala Val Asn His Pro Ser Leu Pro Gly His Pro Asp His Ala
 145 150 155 160

Ile Tyr Gln Arg Tyr Phe Pro Gly Gly Ala Gly Ser Ile Phe Thr Phe
 165 170 175
 Glu Val Lys Gly Gly Thr Glu Glu Ala Gln Lys Phe Ile Asp Ser Leu
 180 185 190
 Gln Ile Phe Ser Leu Leu Ala Asn Val Ala Asp Val Lys Ser Leu Val
 195 200 205
 Ile His Pro Ala Thr Thr His Ser Gln Leu Asn Ala Gln Glu Leu
 210 215 220
 Glu Glu Gln Gly Ile Lys Pro Gly Thr Val Arg Leu Ser Ile Gly Thr
 225 230 235 240
 Glu His Ile Glu Asp Ile Ile Asp Asp Leu Arg Gln Ala Leu Glu Lys
 245 250 255
 Ile

<210> 9165
<211> 64
<212> PRT
<213> B.fragilis

<400> 9165
 Arg Gln Tyr Thr Glu Lys Gln Thr Asn Gly Lys Val Ile Pro Gln Thr
 1 5 10 15
 Asn Cys Pro Asp Phe Ile His His Ile Ile Phe Tyr Phe Thr Lys
 20 25 30
 Leu Cys Ile Phe Thr Lys Ser Asp Asn Leu Lys Ile Asn Glu Glu Ile
 35 40 45
 Phe Ala Thr Asn Lys Asn Tyr Leu Tyr Phe Cys Asp Arg Phe Ala Asn
 50 55 60

<210> 9166
<211> 60
<212> PRT
<213> B.fragilis

<400> 9166
 Gly Pro Phe Thr Gln Asn Ser Pro Met Cys Asp Thr Ser Lys Thr Pro
 1 5 10 15
 Thr Leu Leu Gln Thr Val Arg Cys Ser Ser Met Ile Pro Glu Tyr Ser
 20 25 30
 Ile Gly Met Leu Tyr Pro Ala Asn Ser Cys Ile Leu Ala Pro Ser Ala
 35 40 45
 Ile Cys Phe Ser Val Asn Gly Val Val Phe Met Lys
 50 55 60

<210> 9167
<211> 445
<212> PRT
<213> B.fragilis

<400> 9167
 Asn Phe Pro Thr Lys Ile Ala Asp Lys Asn Glu Arg Arg Asn His Phe
 1 5 10 15
 Tyr Ile Thr Leu His Arg Ile His Lys Val Tyr Arg Thr Gly Pro Met
 20 25 30
 Lys Lys Asn Val Leu Phe Leu Leu Leu Gly Leu Leu Thr Thr Val
 35 40 45
 Ser Ala Gln Pro Thr His Arg Ile Lys Gly Thr Val Ile Asp Lys Ala
 50 55 60

Ser Arg Gln Pro Leu Glu Phe Ile Asn Val Leu Val Leu Gly Leu Gly
 65 70 75 80
 Arg Gly Gly Val Thr Asp Ala Glu Gly His Phe Asn Ile Gly Glu Val
 85 90 95
 Pro Pro Gly Ile Tyr Arg Leu Gln Ala Ser Ala Val Gly Tyr Lys Thr
 100 105 110
 Ile Leu Thr Pro Glu Tyr Ile Val Ser Thr Lys Asp Leu Thr Ile Gln
 115 120 125
 Ile Glu Thr Glu Glu Asn Leu Thr Glu Leu Glu Gly Val Thr Val Thr
 130 135 140
 Ala Ser Pro Phe Arg Arg Asp Pro Glu Ser Pro Val Gly Leu Arg Ile
 145 150 155 160
 Ile Gly Leu Gln Glu Ile Glu Lys Ser Pro Gly Ala Asn Arg Asp Ile
 165 170 175
 Ser Arg Ile Val Gln Ser Tyr Pro Gly Val Ala Phe Ser Pro Ala Gly
 180 185 190
 Tyr Arg Asn Asp Leu Ile Val Arg Gly Gly Ser Pro Ser Glu Asn Arg
 195 200 205
 Phe Tyr Leu Asp Gly Val Glu Ile Pro Asn Ile Asn His Phe Ser Thr
 210 215 220
 Gln Gly Ala Ser Gly Gly Pro Val Gly Ile Ile Asn Ala Asp Leu Ile
 225 230 235 240
 Arg Glu Val Asn Phe Tyr Thr Gly Ala Phe Pro Thr Asp Arg Gly Asn
 245 250 255
 Ala Met Ser Ser Val Leu Asp Phe Lys Leu Arg Asp Gly Asp Met Glu
 260 265 270
 Arg Asn Ser Leu Lys Ala Thr Leu Gly Ala Ser Glu Val Ser Leu Ala
 275 280 285
 Ser Asn Gly His Ile Gly Lys Lys Thr Ser Tyr Leu Val Ser Val Arg
 290 295 300
 Gln Ser Tyr Leu Gln Phe Leu Phe Asp Met Leu Gly Leu Pro Phe Leu
 305 310 315 320
 Pro Thr Phe Thr Asp Ala Gln Phe Lys Leu Lys Thr Arg Phe Asn Ala
 325 330 335
 Asn Asn Glu Leu Thr Ile Leu Gly Leu Gly Gly Ile Asp Asn Met Lys
 340 345 350
 Leu Asn Thr Lys Leu Asp Gly Glu Lys Ala Glu Tyr Ile Leu Ser Tyr
 355 360 365
 Leu Pro Lys Ile Gln Gln Glu Thr Phe Thr Leu Gly Ala Val Tyr Arg
 370 375 380
 His Tyr Ala Gly Ile His Val Gln Ser Val Val Val Ser His Ser Tyr
 385 390 395 400
 Leu Asn Asn Arg Asn Thr Lys Tyr Leu Asn Asn Asp Glu Ser Ser Ala
 405 410 415
 Asp Asn Leu Ser Leu Lys Leu Arg Ser Val Glu Gln Glu Thr Lys Phe
 420 425 430
 Arg Ile Glu Asn Thr Ser Thr Phe Gly Lys Leu Glu Asn
 435 440 445

<210> 9168

<211> 234

<212> PRT

<213> B.fragilis

<400> 9168

Lys Thr Leu Thr Arg Tyr Trp His Ile Ile Lys Lys Cys Asp Ile Cys
 1 5 10 15

Gly Met Ile Gln Ile Glu Thr Ile Leu Asp Ile Leu Val Lys Gly Phe
 20 25 30

Val Ile Gly Ile Val Val Ser Ala Pro Leu Gly Pro Val Gly Val Leu
 35 40 45
 Cys Ile Gln Arg Thr Leu Asn Lys Gly Arg Trp Tyr Gly Phe Val Thr
 50 55 60
 Gly Leu Gly Ala Ser Leu Ser Asp Ile Ala Tyr Ala Leu Leu Thr Gly
 65 70 75 80
 Tyr Gly Met Ser Phe Val Phe Asp Tyr Ile Asn Lys Asn Ile Phe Tyr
 85 90 95
 Leu Gln Leu Leu Gly Ser Ile Met Leu Leu Ala Phe Gly Ile Tyr Thr
 100 105 110
 Phe Arg Ser Asn Pro Val Gln Ser Ile Arg Pro Val Ser Ala Asn Lys
 115 120 125
 Gly Ser Tyr Phe His Asn Phe Ile Thr Ala Phe Ala Val Thr Leu Ser
 130 135 140
 Asn Pro Leu Ile Ile Phe Leu Phe Ile Gly Leu Phe Ala Arg Phe Ala
 145 150 155 160
 Phe Val Gln Pro Gly Val Leu Val Phe Glu Glu Ile Thr Gly Tyr Leu
 165 170 175
 Ala Ile Ala Leu Gly Ala Leu Ala Trp Trp Phe Gly Ile Thr Phe Phe
 180 185 190
 Val Asn Lys Val Arg Thr Arg Phe Asn Leu Arg Gly Ile Trp Ile Leu
 195 200 205
 Asn Arg Val Ile Gly Ser Ile Val Met Ala Val Ser Val Phe Gly Leu
 210 215 220
 Ile Phe Thr Leu Leu Gly Glu Ser Ile Tyr
 225 230

<210> 9169

<211> 103

<212> PRT

<213> B.fragilis

<400> 9169

Lys Lys Gly Thr Ile Ser Leu Gln Lys Gln Pro Pro Leu Arg Asp Leu
 1 5 10 15
 Gly Tyr Lys Ile Phe Leu Leu Ser Ile Arg Leu Arg Ser Gln Tyr Tyr
 20 25 30
 Ile Val Ile Leu Thr Phe Ile Ile Glu Thr Phe Gly Lys Ser Glu Tyr
 35 40 45
 Arg Lys Asn Leu Ser Tyr Ile Ile Val Arg Thr Lys Ser Thr Gly Lys
 50 55 60
 Thr Val Leu Leu Gln Leu Cys Ile Arg Asn Asn Glu Met Asn Ile Lys
 65 70 75 80
 Met Phe Phe Lys Thr Leu His Tyr Phe Leu Lys Cys Gly Leu Phe Glu
 85 90 95
 Phe Gln Phe Ser Val Asn Pro
 100

<210> 9170

<211> 106

<212> PRT

<213> B.fragilis

<400> 9170

Ile Asp Trp Thr Met Thr Asn Leu Gln Glu Leu Leu Leu Lys Pro Val
 1 5 10 15
 Trp Gln Met Thr Gly Glu Glu Phe Ile Phe Leu Ser Lys Tyr Ala Ser
 20 25 30
 Asn Gln Thr Glu Ala Gln Pro Gln Pro Val Thr Asp Thr Glu Arg Lys

35	40	45
Tyr Val Tyr Gly Ile Leu Gly Ile Ala Lys Leu Phe Gly Cys Ser Leu		
50	55	60
Pro Thr Ala Asn Arg Ile Lys Lys Ser Gly Lys Ile Asp Lys Ala Ile		
65	70	75
Thr Gln Ile Gly Arg Lys Ile Ile Val Asp Ala Glu Leu Ala Leu Glu		
85	90	95
Leu Ala Gly Lys Lys Thr Gly Gly Arg Lys		
100	105	

<210> 9171

<211> 442

<212> PRT

<213> B.fragilis

<400> 9171

Ile Ile Phe Ala Thr Thr Ile Asn Ile Arg Met Glu Asn Asn Arg Glu		
1	5	10
Tyr His Ile Gly Arg Thr Asp Phe Asp Ala Phe Val His Ala Val Gly		
20	25	30
Ser Glu Ile Glu Gln Ala Gln Val Arg Leu Ile Ala Ala Ala Asn Ala		
35	40	45
Gln Met Leu Phe His Tyr Trp Lys Met Gly Asn Tyr Ile Leu Tyr His		
50	55	60
Gln Asn Leu Gln Gly Trp Gly Ser Lys Ile Ile Lys Gln Leu Ala Lys		
65	70	75
Ala Ile Arg Phe Asn Tyr Pro Glu Lys Lys Gly Tyr Ser Glu Arg Asn		
85	90	95
Leu Thr Tyr Met Cys Gln Phe Ala Arg Ser Tyr Pro Leu Asn Val Leu		
100	105	110
Arg Ser Phe Ile Asp Thr Asp Thr Arg Leu Ser Val Pro Ser Ile Gln		
115	120	125
Asn Val Thr Asp Glu Val Leu Lys Leu Asn Asn Gly Gln Phe Thr Gln		
130	135	140
Glu Leu Thr Ala Gln Ile Gln Ser Ala Asp Cys Gln Ser Leu Glu Ile		
145	150	155
Thr Gln Glu Val Pro Ala Gln Ile Gln Asp Val Glu Lys Thr Val Ser		
165	170	175
Ala Ile Tyr Arg Met Glu Ile Arg Glu Ile Glu Lys Val Phe Leu Lys		
180	185	190
Ser Pro Val Ala Lys Ile Asn Trp Ala Ser Gln Met Val Ile Leu Asn		
195	200	205
Gly Ser Leu Pro Leu Gly Ile Gly Tyr Trp Tyr Met Lys Gln Ala Val		
210	215	220
Glu Met Gly Trp Ser Ser Asn Val Leu Lys Met Gln Ile Glu Asn Asn		
225	230	235
Leu Tyr Asn Arg Gln Ile Asn Asn Asn Lys Val Asn Asn Phe Thr Ala		
245	250	255
Thr Leu Pro Ala Pro Gln Ser Asp Leu Ala Asn Tyr Leu Leu Lys Asp		
260	265	270
Pro Tyr Ile Phe Asp Leu Ala Gly Ala Lys Glu Lys Ala Asp Glu Arg		
275	280	285
Asp Ile Glu Glu Gln Leu Val Lys His Val Thr Arg Tyr Leu Leu Glu		
290	295	300
Met Gly Asn Gly Phe Ala Phe Val Ala Arg Gln Lys His Phe Gln Ile		
305	310	315
Gly Asn Ser Asp Phe Phe Ala Asp Leu Ile Leu Tyr Ser Ile Pro Leu		
325	330	335
His Ala Tyr Ile Val Val Glu Leu Lys Ala Thr Pro Phe Lys Pro Glu		

340	345	350
Tyr Ala Gly Gln Leu Asn Phe Tyr Ile Asn Val Val Asp Asp Lys Leu		
355	360	365
Arg Gly Lys Asn Asp Asn Lys Thr Ile Gly Leu Leu Cys Lys Gly		
370	375	380
Lys Asp Glu Val Val Ala Gln Tyr Ala Leu Thr Gly Tyr Asp Gln Pro		
385	390	395
Ile Gly Ile Ser Asp Tyr Gln Leu Ser Lys Ala Ile Pro Glu Asn Leu		400
405	410	415
Lys Ser Ala Leu Pro Ser Val Glu Glu Val Glu Glu Leu Ala Ser		
420	425	430
Phe Leu Asp Lys Asp Asn Asn Pro Gln Asn		
435	440	

<210> 9172

<211> 268

<212> PRT

<213> B.fragilis

<400> 9172

Asp Asn Ser Ala Thr Tyr Thr Gly Leu Cys Leu Gly His Leu Pro Lys			
1	5	10	15
Lys Val Phe Phe Leu Ser Glu Met Ser Gln Gln Phe Val Glu Asp Tyr			
20	25	30	
Met Phe Trp Leu Leu Thr Lys Lys Gly Cys Ser His Asn Thr Ser Thr			
35	40	45	
Lys Tyr Leu Lys Asn Phe Lys Lys Ile Ile Leu Ser Leu Ala Lys			
50	55	60	
Gly Trp Leu Lys Lys Asp Pro Phe Ala Glu Tyr Lys Phe Thr Leu Glu			
65	70	75	80
Ala Val Asp Arg Asp Phe Leu Glu Asp Ser Glu Ile Gln Lys Ile Leu			
85	90	95	
Ser Lys Glu Ile Ala Ile Ser Arg Leu Val Gln Val Arg Asp Thr Phe			
100	105	110	
Ile Phe Cys Cys Phe Thr Gly Leu Ala Phe Ser Asp Val Lys Gln Leu			
115	120	125	
Lys Gln Glu Asp Ile Val Glu Asp Ser Asn Gly Val Lys Trp Ile Arg			
130	135	140	
Lys Glu Arg Gln Lys Thr Lys Ile Ile Cys Asn Ile Pro Leu Arg Asp			
145	150	155	160
Ile Pro Leu Gln Ile Leu Lys Lys Tyr Glu Asn Asn Pro Gln Cys Val			
165	170	175	
Ile Lys Gly Val Leu Leu Pro Ile Leu Cys Asn Gln Lys Met Asn Ala			
180	185	190	
Tyr Leu Lys Glu Leu Gly Asp Ile Cys Gly Val Asn Lys Thr Ile Thr			
195	200	205	
Met His Thr Ala Arg His Thr Phe Ala Thr Tyr Ala Leu Ala Asn Gly			
210	215	220	
Val Ser Met Glu Ser Val Ala Lys Met Leu Gly His Thr Asn Leu Gln			
225	230	235	240
Met Thr Arg His Tyr Ala Arg Thr Leu Asp Arg Ile Val Val Lys Glu			
245	250	255	
Leu Phe Gln Ile Lys Asp Asn Phe Glu Met Ala Asn			
260	265		

<210> 9173

<211> 75

<212> PRT

<213> B.fragilis

<400> 9173

Ser	Ala	Asp	Ala	Ile	Gln	Phe	Ala	Gly	Tyr	Leu	Asp	Phe	Glu	Pro	Gly
1				5				10						15	
Asp	Trp	Gln	Tyr	Arg	Asp	Gly	Ser	Ile	Arg	Val	Arg	Thr	His	Ile	His
			20					25					30		
Phe	Ala	Gly	Arg	Ile	Tyr	Leu	Leu	Ile	Gly	Glu	Lys	Thr	Glu	Asp	Glu
			35				40				45				
Asn	Ser	Ala	Thr	Thr	Gln	Gly	Glu	Glu	His	Cys	Arg	Ile	Pro	Tyr	Leu
			50				55			60					
Tyr	Val	Ala	Asp	Arg	Gly	Phe	Asp	Pro	Cys	Gln					
			65			70			75						

<210> 9174

<211> 331
<212> PRT
<213> B.fragilis

<400> 9174

Gly	Leu	Ser	Ala	Leu	Pro	Leu	Phe	Leu	Cys	Trp	Leu	Leu	Ser	Arg	Pro
1				5				10					15		
Glu	Ala	Ile	Ile	Gly	Asn	Ile	Ser	Ala	Thr	Ile	Val	Gly	Lys	Leu	Ser
			20					25				30			
Lys	Ser	Arg	Leu	Arg	Asn	Ser	Thr	Leu	Leu	Leu	Trp	Lys	Arg	Lys	Ile
			35					40				45			
Glu	Lys	Thr	Asn	Ser	Lys	Lys	His	Arg	Leu	Lys	Met	Lys	Arg	Arg	Asn
			50				55			60					
Leu	Phe	Leu	Ala	Cys	Leu	Leu	Phe	Val	Leu	Pro	Leu	Ser	Ala	Ala	
			65				70			75			80		
Arg	Val	Asp	Thr	Leu	Met	Val	Lys	Ser	Pro	Ser	Met	Asn	Lys	Glu	Val
				85				90				95			
Gln	Val	Leu	Val	Val	Thr	Pro	Asp	Val	Ala	Leu	Gly	Lys	Asn	Ala	Ala
			100				105				110				
Ala	Cys	Pro	Val	Leu	Tyr	Leu	Leu	His	Gly	Tyr	Gly	Gly	His	Ala	Lys
			115				120				125				
Thr	Trp	Ile	Gln	Ile	Lys	Pro	Asn	Leu	Pro	Glu	Ile	Ala	Asp	Glu	Lys
			130				135			140					
Gly	Ile	Ile	Phe	Val	Cys	Pro	Asp	Gly	Lys	Asp	Ser	Trp	Tyr	Trp	Asp
			145				150			155			160		
Ser	Pro	Lys	Asn	Pro	Ala	Tyr	Arg	Tyr	Glu	Thr	Phe	Val	Ser	Ser	Glu
				165				170				175			
Leu	Val	Asn	Tyr	Ile	Asp	Arg	Asn	Tyr	Lys	Thr	Ile	Ala	Asp	Arg	Lys
				180				185				190			
Gly	Arg	Ala	Ile	Thr	Gly	Leu	Ser	Met	Gly	Gly	His	Gly	Ala	Met	Trp
			195				200				205				
Leu	Gly	Ile	Arg	His	Lys	Asp	Val	Phe	Gly	Ala	Ala	Gly	Ser	Thr	Ser
			210				215			220					
Gly	Gly	Val	Asp	Ile	Arg	Pro	Phe	Pro	Lys	Asn	Trp	Ser	Met	Asn	Lys
			225				230			235			240		
Gln	Leu	Gly	Glu	Leu	Ala	Ser	Asn	Lys	Arg	Ile	Trp	Asp	Glu	His	Thr
				245				250				255			
Val	Val	Asn	Gln	Leu	Asp	Lys	Ile	Gln	Asn	Gly	Asp	Leu	Ala	Leu	Ile
				260				265			270				
Ile	Asp	Cys	Gly	Glu	Asp	Asp	Phe	Phe	Leu	Asn	Val	Asn	Lys	Asp	Phe
			275				280				285				
His	Asp	Arg	Leu	Leu	Gly	Arg	Lys	Ile	Asp	His	Asp	Phe	Ile	Thr	Arg
			290				295				300				
Pro	Gly	Glu	His	Asn	Gly	Lys	Tyr	Trp	Asn	Asn	Ser	Ile	Asp	Tyr	Gln
			305				310			315			320		

Ile Leu Phe Phe Ser Lys Phe Phe Ala Gly Glu
 325 330

<210> 9175

<211> 62

<212> PRT

<213> B.fragilis

<400> 9175

Met Val Lys Ala Ile Pro Ile Ile Lys Gly Arg Gly Ile Lys Asn			
1 5 10 15			
Lys Ala Ala Ile Ala Asn Glu Thr Ile Val Thr Val Ser Cys Leu Asp			
20 25 30			
Thr Arg Glu Val Asn Asn Ser Glu Tyr Gly Ser Glu Leu Val Ser Thr			
35 40 45			
Ser Leu Arg Ser Ala Ser Cys Pro Ile Thr Lys Ala Val Phe			
50 55 60			

<210> 9176

<211> 431

<212> PRT

<213> B.fragilis

<400> 9176

Tyr Asp Met Ala Lys Ile Gln Ile Lys Ser Glu Lys Leu Thr Pro Phe			
1 5 10 15			
Gly Gly Ile Phe Ser Ile Met Glu Lys Phe Asp Ser Met Leu Ser Pro			
20 25 30			
Val Ile Asp Ser Thr Leu Gly Gln Arg Cys Ser Ser Ile Phe Gly Tyr			
35 40 45			
Gln Phe Ser Glu Ile Val Arg Ser Leu Met Ser Val Tyr Phe Cys Gly			
50 55 60			
Gly Ser Cys Val Glu Asp Val Thr Ser Gln Leu Met Arg His Leu Ser			
65 70 75 80			
Tyr His Pro Thr Leu Arg Thr Cys Ser Ser Asp Thr Ile Leu Arg Ala			
85 90 95			
Ile Lys Glu Leu Thr Gln Glu Asn Ile Ser Tyr Thr Ser Asp Gln Gly			
100 105 110			
Lys Thr Tyr Asp Phe Asn Thr Ala Asp Lys Leu Asn Thr Leu Leu Ile			
115 120 125			
Asn Ala Leu Val Ser Thr Gly Glu Leu Lys Glu Ile Glu Glu Tyr Asp			
130 135 140			
Val Asp Phe Asp His Gln Phe Leu Glu Thr Glu Lys Tyr Asp Ala Lys			
145 150 155 160			
Pro Thr Tyr Lys Phe Leu Gly Tyr Arg Pro Gly Val Tyr Val Ile			
165 170 175			
Gly Asp Lys Ile Val Tyr Ile Glu Asn Ser Asp Gly Asn Thr Asn Val			
180 185 190			
Arg Phe His Gln Ala Asp Thr His Lys Arg Phe Phe Ala Leu Leu Glu			
195 200 205			
Ser Gln Asn Ile Arg Val Asn Arg Phe Arg Ala Asp Cys Gly Ser Cys			
210 215 220			
Ser Lys Glu Ile Val Ser Glu Ile Glu Lys His Cys Lys His Phe Tyr			
225 230 235 240			
Ile Arg Ala Asn Arg Cys Ser Ser Leu Tyr Asn Asp Ile Phe Ala Leu			
245 250 255			
Arg Gly Trp Lys Thr Glu Glu Ile Asn Gly Ile Gln Phe Glu Leu Asn			
260 265 270			
Ser Ile Leu Val Glu Lys Trp Glu Gly Lys Cys Tyr Arg Leu Val Ile			

275	280	285
Gln Arg Gln Arg Arg Asn Ser Gly Asp Leu Asp Leu Trp Glu Gly Glu		
290	295	300
Tyr Thr Tyr Arg Cys Ile Leu Thr Asn Asp Tyr Lys Ser Ser Thr Arg		
305	310	315
Asp Ile Val Glu Phe Tyr Asn Leu Arg Gly Gly Lys Glu Arg Ile Phe		
325	330	335
Asp Asp Met Asn Asn Gly Phe Gly Trp Ser Arg Leu Pro Lys Ser Phe		
340	345	350
Met Ala Glu Asn Thr Val Phe Leu Leu Thr Ala Leu Ile His Asn		
355	360	365
Phe Tyr Lys Thr Ile Met Ser Arg Leu Asp Thr Lys Ala Phe Gly Leu		
370	375	380
Lys Lys Thr Ser Arg Ile Lys Ala Phe Val Phe Arg Phe Ile Ser Val		
385	390	395
Pro Ala Lys Trp Ile Met Thr Ala Arg Gln Tyr Val Leu Asn Ile Tyr		
405	410	415
Thr Glu Asn Arg Ala Tyr Ala Lys Pro Phe Lys Thr Glu Phe Gly		
420	425	430

<210> 9177

<211> 746

<212> PRT

<213> B.fragilis

<400> 9177

Leu Ile Asn Phe Met Glu Leu Asn Lys Thr Phe Lys Asp Gly Leu Trp		
1	5	10
Ser Lys Glu Ile Asn Val Arg Asp Phe Val Ser Asn Asn Ile Thr Pro		
20	25	30
Tyr Lys Gly Asp Ala Ser Phe Leu Gln Gly Pro Thr Glu Arg Thr Lys		
35	40	45
Ala Val Trp Asn His Cys Leu Lys Ala Leu Glu Glu Arg Asn Asn		
50	55	60
Asn Gly Ile Arg Ala Leu Asp Tyr Thr Val Ser Thr Ile Thr Ser		
65	70	75
His Pro Ala Gly Tyr Ile Asp Lys Glu Asn Glu Leu Ile Val Gly Leu		
85	90	95
Gln Thr Asp Gln Val Leu Lys Arg Ala Ile Lys Pro Phe Gly Gly Ile		
100	105	110
Asn Val Val Met Lys Ala Cys Arg Glu Asn Gly Val Glu Val Asp Asp		
115	120	125
Arg Val Lys Asp Ile Phe Thr His Tyr Arg Lys Thr His Asn Asp Gly		
130	135	140
Val Phe Asp Val Tyr Thr Glu Glu Ile Arg Ser Phe Arg Ser Leu Gly		
145	150	155
Phe Leu Thr Gly Leu Pro Asp Asn Tyr Ala Arg Gly Arg Ile Ile Gly		
165	170	175
Asp Tyr Arg Arg Leu Ala Leu Tyr Gly Leu Asp Arg Leu Ile Glu Ala		
180	185	190
Lys Lys Glu Asp Leu His Asn Leu Thr Gly Pro Met Thr Glu Ala Arg		
195	200	205
Ile Arg Leu Arg Glu Glu Val Ala Glu Gln Ile Lys Ala Leu Lys Glu		
210	215	220
Ile Lys Val Leu Gly Glu Tyr Tyr Gly Leu Asp Leu Ser Arg Pro Ala		
225	230	235
Tyr Thr Ala Gln Glu Ala Val Gln Trp Val Tyr Met Ala Tyr Leu Ala		
245	250	255
Ala Val Lys Glu Gln Asp Gly Ala Ala Met Ser Leu Gly Asn Val Ser		

260	265	270
Ser Phe Leu Asp Ile Tyr Leu Glu Tyr Glu Leu Ser Gln Gly Thr Ile		
275	280	285
Thr Glu Thr Phe Ala Gln Glu Leu Ile Asp Gln Phe Val Ile Lys Leu		
290	295	300
Arg Met Val Arg His Leu Arg Met Gln Ser Tyr Asn Asp Ile Phe Ala		
305	310	315
Gly Asp Pro Thr Trp Val Thr Glu Ser Ile Gly Gly Arg Phe Asn Asp		
325	330	335
Gly Arg Thr Lys Val Thr Lys Thr Ser Phe Arg Phe Leu Gln Thr Leu		
340	345	350
Tyr Asn Leu Gly Pro Ser Pro Glu Pro Asn Met Thr Val Leu Trp Ser		
355	360	365
Pro Glu Leu Pro Glu Gly Phe Lys Ala Phe Cys Ala Gln Val Ser Ile		
370	375	380
Asp Thr Ser Ser Val Gln Tyr Glu Asn Asp Asp Leu Met Arg Glu Val		
385	390	395
Arg Gln Ser Asp Asp Tyr Gly Ile Ala Cys Cys Val Ser Tyr Gln Glu		
405	410	415
Ile Gly Lys Gln Ile Gln Phe Phe Gly Ala Arg Ala Asn Leu Ala Lys		
420	425	430
Ala Leu Leu Leu Ala Ile Asn Gly Gly Arg Cys Glu Asn Thr Gly Thr		
435	440	445
Val Met Val Lys Asp Ile Pro Val Leu Thr Gly Glu Thr Leu Lys Phe		
450	455	460
Glu Glu Val Met Ala Asn Tyr Lys Lys Val Leu Ile Gln Ile Ala Arg		
465	470	475
Val Tyr Asn Glu Ala Met Asn Ile Ile His Tyr Met His Asp Lys Tyr		
485	490	495
Tyr Tyr Glu Lys Ala Gln Met Ala Phe Val Asp Thr Asp Pro Arg Ile		
500	505	510
Asn Leu Ala Tyr Gly Val Ala Gly Leu Ser Ile Ala Ile Asp Ser Leu		
515	520	525
Ser Ala Ile Lys Tyr Ala His Val Lys Ala Arg Arg Asn Asp Ile Gly		
530	535	540
Leu Thr Glu Gly Phe Asp Ile Glu Gly Ala Phe Pro Cys Phe Gly Asn		
545	550	555
Asp Asp Asp Arg Val Asp His Leu Gly Val Asp Leu Val Tyr Phe Phe		
565	570	575
Ser Glu Glu Leu Lys Lys Leu Pro Val Tyr Lys Asn Ala Arg Pro Thr		
580	585	590
Leu Ser Leu Leu Thr Ile Thr Ser Asn Val Met Tyr Gly Lys Lys Thr		
595	600	605
Gly Ala Thr Pro Asp Gly Arg Ala Lys Gly Ile Ala Phe Ala Pro Gly		
610	615	620
Ala Asn Pro Met His Gly Arg Asp Lys Asn Gly Ala Ile Ala Ser Leu		
625	630	635
Ser Ser Val Ala Lys Leu Arg Tyr Arg Asp Ser Gln Asp Gly Ile Ser		
645	650	655
Asn Thr Phe Ser Ile Val Pro Lys Ser Leu Gly Ala Thr Gln Glu Asp		
660	665	670
Arg Ile Asp Asn Leu Val Thr Met Met Asp Gly Tyr Phe Thr Lys Gly		
675	680	685
Ala His His Leu Asn Val Asn Val Leu Asn Arg Glu Met Leu Gln Asp		
690	695	700
Ala Met Glu His Pro Glu Lys Tyr Pro Gln Leu Thr Ile Arg Val Ser		
705	710	715
Gly Tyr Ala Val Asn Phe Val Lys Leu Ser Arg Glu His Gln Leu Glu		
725	730	735

Val Ile Ser Arg Ser Phe His Glu Arg Met
740 745

<210> 9178

<211> 1111

<212> PRT

<213> B.fragilis

<400> 9178

Lys	His	Phe	Leu	Ile	Lys	Lys	Asn	Lys	Met	Lys	Ser	Val	Lys		
1				5					10				15		
His	Lys	Phe	Gln	Tyr	Leu	Leu	Phe	Phe	Leu	Leu	Ser	Met	Pro	Ala	Phe
				20				25					30		
Ile	Phe	Ala	Ser	Ala	Gln	Asp	Ile	Arg	Val	Asn	Ile	Asp	Phe	Thr	Lys
		35				40						45			
Ala	Ser	Leu	Gly	Ser	Val	Leu	Asn	Glu	Ile	Gly	Arg	Gln	Thr	Ser	Leu
		50				55					60				
Ser	Ile	Val	Tyr	Asn	Thr	Gly	Asp	Val	Asn	Pro	Thr	Gln	Pro	Val	Ser
	65				70					75			80		
Ile	Lys	Ala	Ser	Asn	Glu	Asn	Ile	Thr	Thr	Val	Met	Asn	Arg	Leu	Leu
							85			90			95		
Arg	Gly	Thr	Gly	Leu	Ser	Tyr	Ser	Ile	Met	Asn	Lys	His	Leu	Ile	Leu
		100					105					110			
Ser	Thr	Thr	Asp	Lys	Asn	His	Ser	Ile	Gln	Gln	Glu	Lys	Val	Thr	Val
		115					120					125			
Thr	Gly	Asn	Ile	Ser	Asp	Ala	Lys	Gly	Glu	Pro	Leu	Ile	Gly	Val	Ser
		130				135					140				
Ile	Leu	Val	Lys	Gly	Thr	Ser	Asn	Gly	Thr	Ile	Thr	Asp	Met	Asn	Gly
	145				150					155			160		
His	Phe	Ser	Leu	Pro	Val	Ala	Lys	Gly	Asp	Val	Ile	Glu	Ile	Ser	Tyr
					165					170			175		
Ile	Gly	Tyr	Ala	Pro	Gln	Ala	Ile	Thr	Val	Thr	Asp	Ser	Lys	Pro	Leu
		180					185					190			
Lys	Ile	Val	Met	Lys	Glu	Asp	Ala	Glu	Val	Leu	Asp	Glu	Val	Val	Val
		195				200					205				
Thr	Ala	Leu	Gly	Ile	Lys	Arg	Ala	Gln	Lys	Ala	Leu	Ser	Tyr	Asn	Val
		210				215					220				
Gln	Gln	Val	Gly	Gly	Asp	Ala	Ile	Asn	Thr	Val	Lys	Asp	Ala	Asn	Phe
	225				230					235			240		
Ile	Asn	Ser	Leu	Gln	Gly	Lys	Val	Ala	Gly	Val	Thr	Ile	Asn	Asn	Ser
					245				250			255			
Ala	Gly	Gly	Val	Gly	Ser	Ala	Ser	Arg	Val	Val	Met	Arg	Gly	Thr	Lys
		260				265					270				
Ser	Ile	Thr	Lys	Asp	Asn	Asn	Ala	Leu	Tyr	Val	Ile	Asp	Gly	Ile	Pro
		275				280					285				
Met	Phe	Asn	Val	Ser	Phe	Gly	Lys	Ser	Glu	Gly	Ser	Phe	Ala	Thr	Gln
		290			295				300						
Ser	Gly	Ser	Asp	Gly	Val	Ala	Asp	Leu	Asn	Pro	Asp	Asp	Ile	Glu	Ser
	305				310				315			320			
Ile	Asn	Met	Leu	Thr	Gly	Pro	Ser	Ala	Ala	Leu	Tyr	Gly	Asn	Ala	
					325				330			335			
Ala	Ala	Asn	Gly	Val	Val	Leu	Ile	Asn	Thr	Lys	Lys	Gly	Ser	Ala	Glu
					340				345			350			
Lys	Thr	Thr	Leu	Thr	Val	Ser	Asn	Asn	Thr	Met	Phe	Ser	Asp	Ala	Tyr
		355				360					365				
Met	Met	Pro	Glu	Met	Gln	Asn	Arg	Tyr	Gly	Asn	Asn	Pro	Gly	Glu	Phe
		370			375					380					
Ala	Ser	Trp	Gly	Asn	Lys	Thr	Lys	Gln	Ser	Tyr	Asp	Pro	Ser	Arg	Phe
	385				390				395			400			

Phe Asn Thr Gly Val Asn Val Ile Asn Ala Ile Ser Phe Ser Thr Gly
 405 410 415
 Thr Lys Lys Asn Gln Thr Tyr Ala Ser Ala Ser Thr Thr Asn Ala Thr
 420 425 430
 Gly Ile Leu Pro Asn Asn Ser Tyr Ser Arg Tyr Asn Phe Ser Ile Arg
 435 440 445
 Asn Thr Ala Thr Phe Leu Lys Asp Arg Leu Thr Leu Asp Val Gly Ala
 450 455 460
 Ser Tyr Ile Ile Gln Asn Asp Lys Asn Ile Thr Ala Gln Gly Gln Tyr
 465 470 475 480
 Phe Asn Pro Leu Pro Ala Leu Tyr Leu Phe Pro Arg Asn Asp Asn Phe
 485 490 495
 Glu Glu Ile Arg Met Phe Glu Arg Tyr Ser Glu Ser Arg Gly Val Asn
 500 505 510
 Val Gln Phe Trp Pro Tyr Gly His Gln Gly Leu Ser Leu Gln Asn Pro
 515 520 525
 Tyr Trp Ile Met Lys Arg Met Asn Arg Lys Thr Glu Lys Lys Arg Tyr
 530 535 540
 Met Ile Asn Ala Ser Leu Thr Tyr Lys Leu Thr Asp Trp Leu Asn Val
 545 550 555 560
 Ala Gly Arg Val Lys Val Asp Asn Ser Asp Ile Arg Met Thr Gln Glu
 565 570 575
 Arg Tyr Ala Ser Thr Leu Thr Phe Ala Gly Ala Asn Gly Phe Tyr
 580 585 590
 Ser Asp Gln Asn Arg Thr Asp Arg Asn Thr Tyr Ala Asp Met Met Val
 595 600 605
 Asn Ile Asp Lys Arg Ile Gly Asp Phe Ser Leu Asn Ala Asn Ile Gly
 610 615 620
 Ala Ser Ile Lys Asp Leu Val Tyr Glu Gln Met Gly Asn Glu Gly Asp
 625 630 635 640
 Leu Ala Gly Ile Pro Asn Phe Phe Thr Val Arg Asn Ile Asn Tyr Glu
 645 650 655
 Ser Asn Tyr Lys Pro Lys Gln Phe Gly Tyr His Asp Gln Ser Gln Gly
 660 665 670
 Val Phe Ala Asn Ile Glu Leu Gly Trp Arg Ser Met Ala Tyr Leu Thr
 675 680 685
 Leu Thr Gly Arg Asn Asp Trp Glu Ser Gln Leu Ala Phe Thr Lys His
 690 695 700
 Ser Ser Phe Phe Tyr Pro Ser Ile Gly Gly Ser Val Val Leu Ser Glu
 705 710 715 720
 Met Phe Arg Leu Pro Glu Phe Ile Ser Tyr Ala Lys Leu Arg Gly Ser
 725 730 735
 Tyr Ser Ser Val Ala Ser Ser Phe Glu Arg Tyr Leu Ser Asn Pro Gly
 740 745 750
 Phe Glu Phe Asn Glu Gln Ser His Gln Trp Gly Ser Ser Thr Thr Leu
 755 760 765
 Pro Ala Thr Asn Leu Lys Pro Glu Asp Thr Arg Ser Trp Glu Ile Gly
 770 775 780
 Leu Asn Ala Arg Leu Trp Asn His Phe Ser Ile Asp Ala Thr Tyr Tyr
 785 790 795 800
 His Ser Asn Thr Tyr Asn Gln Thr Phe Asn Ile Thr Leu Ala Ser Ser
 805 810 815
 Ser Gly Tyr Ser Ser Ala Ile Val Gln Thr Gly Asn Ile Gln Asn Tyr
 820 825 830
 Gly Leu Glu Leu Ala Leu Gly Tyr Asn Asn Thr Trp Gly Asp Phe Ser
 835 840 845
 Trp Asn Ser Ser Leu Thr Tyr Thr Met Asn Arg Asn Lys Val Lys Arg
 850 855 860
 Leu Ala Ser Gly Ala Thr Asn Pro Ile Thr Gly Glu Ile Ile Asp Met

865	870	875	880
Pro Glu Leu Arg Met Ala Val Leu Gly Ala Asp Gly Tyr Gly Pro Arg			
885	890	895	
Val Ile Leu Arg Glu Gly Gly Thr Met Gly Asp Leu Tyr Val Asp Lys			
900	905	910	
Gly Leu Arg Thr Asp Gly Asn Gly Asn Ile Trp Val Asp Ser Gln Thr			
915	920	925	
Gly Lys Val Gly Val Gln Asp Tyr Ala Glu Pro Lys Lys Ile Gly Thr			
930	935	940	
Met Asn Pro Asp Phe Asn Met Gly Phe Ser Asn Thr Phe Ser Tyr Lys			
945	950	955	960
Gly Ile Asn Leu Gly Val Val Leu Thr Ala Arg Val Gly Gly Leu Cys			
965	970	975	
Val Ser Asn Thr Gln Gly Ile Leu Asp Tyr Tyr Gly Val Ser Lys Ala			
980	985	990	
Thr Ala Asp Ala Arg Asp Ala Gly Gly Val Trp Ile Asn Asn Gly Phe			
995	1000	1005	
Val Asp Ala Lys Ser Tyr Tyr Gln Thr Ile Gly Gly Ser Thr Gly Gly			
1010	1015	1020	
Leu Gly Gln Tyr Tyr Thr Tyr Ser Ala Thr Asn Ile Arg Leu Ser Glu			
1025	1030	1035	1040
Leu Asn Leu Ser Tyr Thr Leu Pro Arg Lys Trp Phe Asn Asn Lys Val			
1045	1050	1055	
Gly Ile Thr Ala Gly Ile Val Gly Lys Asn Leu Trp Met Ile Tyr Cys			
1060	1065	1070	
Lys Ala Pro Phe Asp Pro Glu Met Thr Pro Ser Thr Thr Ser Asn Phe			
1075	1080	1085	
Tyr Gln Gly Val Asp Tyr Phe Met Gln Pro Ser Thr Arg Asn Ile Gly			
1090	1095	1100	
Phe Asn Val Lys Phe Gln Phe			
1105	1110		

<210> 9179

<211> 68

<212> PRT

<213> B.fragilis

<400> 9179

Met Lys Ser Tyr Arg Leu Pro Cys Phe Val Cys Pro Val Pro Asp Lys			
1	5	10	15
Trp Gly Val Ala Phe Val Leu Ile Pro Phe Ser Ser Phe Ser Cys Gln			
20	25	30	
Lys Glu Lys Asn Ile Pro Trp Gly Val Thr Gly Ser Phe Ala Val Gln			
35	40	45	
Val Lys Arg Glu Glu Arg Arg Cys Arg Asn Arg Ala Phe Phe Pro Gln			
50	55	60	
Lys Ala Gly Phe			
65			

<210> 9180

<211> 76

<212> PRT

<213> B.fragilis

<400> 9180

Ala Phe His Tyr Tyr Leu Leu Pro Ser Asn Gln Lys Val Asn Ala Tyr			
1	5	10	15
Leu Lys Glu Ile Thr Asp Ile Cys Asp Ile His Lys Asn Leu Thr Phe			
20	25	30	

Arg Val Ala Arg His Met Met Ala Thr Thr Ile Cys Leu Ala Asn Gly
 35 40 45
 Met Leu Ile Glu Ser Leu Ser Lys Val Leu Gly Trp Ser Asn Ile Lys
 50 55 60
 Thr Leu Asn Phe Met Leu Arg Leu Leu Met Lys Ser
 65 70 75

<210> 9181

<211> 79

<212> PRT

<213> B.fragilis

<400> 9181

Arg Ile Ile Leu Pro Gln Leu Asp Lys Leu Arg Glu Ser Leu Asn Glu
 1 5 10 15
 Val Ala Lys Ser Leu Arg Glu Ile Leu His Lys Ile Gln Val Ser Thr
 20 25 30
 Ala Ser Lys Val Tyr Ser Asp Cys Leu Leu Ser Val Arg Leu Gly Glu
 35 40 45
 Leu Ser Gly Thr Ser Phe Ser Asn Ala Lys Asn Met Ile Asn Ser Leu
 50 55 60
 Pro Ser Leu Arg Ile Val Leu Phe Thr Ile Pro Phe Ser Thr Lys
 65 70 75

<210> 9182

<211> 130

<212> PRT

<213> B.fragilis

<400> 9182

Tyr Lys Thr Tyr Leu Ile Met Lys Arg Lys Leu Phe Phe Met Ser Cys
 1 5 10 15
 Ile Ala Phe Pro Leu Phe Tyr Ser Ala Cys Thr Leu Lys Val Glu Lys
 20 25 30
 Cys Pro Ala Ile Gln Glu Asn Ala Ile Pro His Ser Lys Thr Ser Arg
 35 40 45
 Glu Glu His Glu Ala Lys Ser Ile Thr Leu His Glu Lys Leu His Ala
 50 55 60
 Thr Phe Ser Val Ser Arg Ser Asp Lys Pro Ser Tyr Pro Asn Tyr Tyr
 65 70 75 80
 Gly Gly Ala Phe Ile Gly Asp Asn Gly Arg Leu Ile Val Leu Val Lys
 85 90 95
 Glu Asp Leu Ser Leu Lys Gly Gly Leu Glu Lys Thr Leu Lys Val Ile
 100 105 110
 Val Phe Ser Ser Ser Ser Leu Arg Leu Phe Leu Ser Arg Thr Ile Gly
 115 120 125
 Phe Gln
 130

<210> 9183

<211> 394

<212> PRT

<213> B.fragilis

<400> 9183

Val Pro Gly Tyr Cys Leu Arg Thr Met Ser Arg Cys Pro Ser Arg Phe
 1 5 10 15
 Glu Lys Ile Val Tyr Gly Phe Ala Asn Lys Arg Ser Arg His Met Ile
 20 25 30

Phe	Asn	Arg	Glu	Glu	Gln	His	Leu	Met	Leu	Glu	Gly	Ser	Val	Leu	Ser
35							40							45	
Lys	Glu	Asp	Val	Lys	Arg	Leu	Val	Ala	Cys	His	Thr	Glu	Glu	Ala	Ser
50							55						60		
Gly	Phe	Leu	Tyr	Glu	Leu	Tyr	Arg	Phe	Leu	Glu	Glu	Trp	Phe	Ser	Asp
65							70				75			80	
Ser	Pro	Tyr	Leu	Thr	Val	Lys	Thr	Ser	Gly	Ser	Thr	Gly	Thr	Pro	Lys
						85				90				95	
Leu	Leu	Lys	Val	Arg	Lys	Glu	Gln	Met	Met	Gln	Ser	Ala	Arg	Leu	Thr
								100		105			110		
Cys	Glu	Phe	Leu	Gly	Leu	Arg	Gln	Gly	Asp	Ser	Val	Leu	Leu	Cys	Met
								115		120			125		
Pro	Leu	Gln	Tyr	Ile	Ala	Gly	Lys	Met	Val	Val	Val	Arg	Ala	Leu	Val
								130		135			140		
Ala	Gly	Leu	Asn	Leu	Val	Ile	Arg	Thr	Pro	Ser	Gly	His	Pro	Met	Ala
								145		150			155		160
Asp	Val	Asp	Ile	Pro	Leu	Arg	Phe	Ala	Ala	Met	Val	Pro	Leu	Gln	Val
								165		170			175		
Tyr	Asn	Thr	Leu	Gln	Val	Ser	Ala	Glu	Lys	Glu	Arg	Leu	Cys	Arg	Thr
								180		185			190		
Asp	Ile	Leu	Ile	Ile	Gly	Gly	Gly	Ala	Ile	Asp	Ala	Gly	Leu	Glu	Ala
								195		200			205		
Glu	Ile	Arg	Gln	Leu	Pro	Val	Lys	Val	Tyr	Ser	Thr	Tyr	Gly	Met	Thr
								210		215			220		
Glu	Thr	Leu	Ser	His	Ile	Ala	Leu	Arg	Gln	Leu	Asn	Gly	Pro	Asp	Ala
								225		230			235		240
Ser	Met	Leu	Tyr	Arg	Pro	Phe	Pro	Ser	Val	Arg	Leu	Ser	Leu	Ser	Ser
								245		250			255		
Glu	His	Thr	Leu	Val	Ile	Asp	Ala	Pro	Leu	Val	Cys	Asp	Thr	Thr	Leu
								260		265			270		
Val	Thr	Asn	Asp	Val	Ala	Glu	Ile	Tyr	Pro	Asp	Gly	Ser	Phe	Ser	Ile
								275		280			285		
Leu	Gly	Arg	Lys	Asp	Asn	Thr	Ile	Asn	Thr	Gly	Gly	Ile	Lys	Val	Gln
								290		295			300		
Ala	Glu	Gln	Ile	Glu	Glu	Ile	Leu	Arg	Pro	Trp	Met	Arg	Val	Pro	Phe
								305		310			315		320
Ala	Ile	Thr	Ser	Val	Pro	Asp	Ala	Arg	Leu	Gly	Glu	Ala	Val	Val	Leu
								325		330			335		
Leu	Val	Glu	Lys	Gly	Ala	Asp	Ala	Glu	Leu	Pro	Glu	Thr	Lys	Met	Lys
								340		345			350		
Glu	Leu	Leu	Ser	Lys	Tyr	Gln	Leu	Pro	Lys	Met	Ile	Leu	Ser	Val	Gly
								355		360			365		
Ala	Ile	Pro	Leu	Thr	Glu	Thr	Gly	Lys	Ile	Asn	Arg	Ala	Ala	Cys	Arg
								370		375			380		
Gln	Leu	Ala	Leu	Thr	Tyr	Arg	Thr	Asp	Arg						
								385		390					

<210> 9184

<211> 70

<212> PBT

<213> B. fragilis

<400> 9184

Cys Phe Ser Leu Lys Ala Leu Gln Arg Tyr Glu Ser Phe Phe Asn Leu
1 5 10 15

20 25 30
 Thr Ala Leu Trp Leu Leu Pro Ile Asn Arg Tyr Phe Tyr Ala Ile Gln
 35 40 45

His Lys Ile Gly Pro Phe Tyr Ile Pro Lys Pro Lys Lys Gly Cys Lys
 50 55 60

Phe Ala Arg Ser Lys Gly
 65 70

<210> 9185
 <211> 354
 <212> PRT
 <213> B.fragilis

<400> 9185

Thr	Val	Leu	Tyr	Val	Thr	Val	Tyr	Asp	Ile	Gly	Ile	Lys	Asp	Leu	Val
1				5					10				15		
Lys	Thr	Met	Asp	Glu	Thr	Lys	Leu	Leu	Asn	Tyr	Leu	Lys	Gly	Glu	Ser
		20					25					30			
Asp	Ala	Glu	Glu	Cys	Leu	Glu	Val	Glu	Ala	Trp	Tyr	His	Ala	Ser	Ala
	35					40					45				
Glu	His	Lys	Lys	Gln	Leu	Asp	Gln	Leu	Tyr	Tyr	Met	Leu	Phe	Val	Gly
	50					55					60				
Glu	Arg	Lys	Val	Ala	Met	Asp	Gly	Val	Asp	Thr	Glu	Asn	Ser	Leu	Ser
	65				70					75			80		
Val	Leu	Lys	Asp	Arg	Ile	Lys	His	Lys	Glu	Ser	Glu	Lys	Ser	Val	
		85						90				95			
His	Arg	Ile	Arg	Val	Ser	Lys	Trp	Lys	Arg	Tyr	Ala	Met	Pro	Leu	Ala
		100					105					110			
Ala	Phe	Leu	Cys	Gly	Leu	Leu	Val	Ser	Val	Gly	Ala	Leu	Tyr	Trp	Ile
		115				120				125					
Ser	Ser	Gly	Lys	Ser	Ala	Gly	Tyr	Ile	Phe	Ala	Thr	Glu	Ser	Gly	Gln
	130					135					140				
Arg	Ala	Gln	Ala	Val	Leu	Pro	Asp	Gly	Thr	Lys	Val	Trp	Leu	Asn	Ala
	145				150				155			160			
Ser	Thr	Gln	Ile	Val	Tyr	Lys	Pro	Ser	Phe	Trp	Lys	Arg	Glu	Arg	Gln
		165					170				175				
Val	Asp	Leu	Ser	Gly	Glu	Ala	Tyr	Phe	Glu	Val	Ser	Arg	Asn	Lys	Thr
		180					185				190				
Lys	Pro	Phe	Val	Val	Asn	Ser	Asn	Asp	Val	Arg	Thr	Cys	Val	Leu	Gly
		195					200				205				
Thr	Lys	Phe	Asn	Val	Arg	Ala	Arg	Pro	Ser	Glu	Glu	Lys	Val	Val	Thr
	210					215				220					
Thr	Leu	Leu	Lys	Gly	Ser	Val	Lys	Val	Gln	Leu	Pro	Gly	Gln	Ser	Glu
	225				230				235			240			
Glu	Glu	Gly	Ile	Leu	Leu	Lys	Pro	Gly	Gln	Met	Leu	Ser	Val	Asp	Thr
		245					250				255				
Arg	Thr	Met	Gln	Pro	Met	Leu	Thr	Glu	Ala	Asn	Arg	Pro	Gly	Asp	Val
		260				265				270					
Leu	Leu	Trp	Ile	Asn	Gly	Lys	Leu	Lys	Phe	Glu	Gln	Ala	Thr	Leu	Gln
		275				280					285				
Glu	Ile	Val	Gln	Cys	Leu	Glu	Lys	His	Phe	Asp	Val	His	Phe	Ile	Ile
	290				295					300					
Ser	Asp	Ala	Gln	Leu	Gln	Lys	Asp	Arg	Phe	Thr	Cys	Thr	Phe	Ser	Thr
	305				310				315			320			
Asp	Asp	Asp	Ile	Arg	Gln	Ile	Leu	Ser	Ile	Leu	Ala	Leu	Thr	Lys	Arg
			325					330			335				
Phe	Asp	Tyr	Lys	Cys	Glu	Asp	Asn	Asn	Ile	Ile	Leu	Thr	Pro	Lys	Thr
		340				345					350				
Asn	Arg														

<210> 9186

<211> 833
<212> PRT
<213> B.fragilis

<400> 9186

Phe	Met	Ile	Tyr	Pro	Gln	Asn	Phe	Glu	Gln	Lys	Ile	Gly	Phe	Asp	Gln
1				5					10					15	
Ile	Arg	Gln	Leu	Leu	Lys	Asp	Lys	Cys	Leu	Ser	Thr	Leu	Gly	Glu	Glu
					20				25					30	
Arg	Val	Asn	Glu	Met	Asn	Phe	Ser	Asp	His	Phe	Glu	Glu	Val	Asp	Glu
				35				40					45		
Leu	Leu	Asn	Gln	Val	Ala	Glu	Phe	Val	Arg	Ile	Ile	Gln	Glu	Glu	Asp
				50				55					60		
Asn	Phe	Pro	Asp	Gln	Phe	Phe	Asp	Val	Arg	Pro	Ser	Leu	Lys	Arg	
	65				70				75					80	
Ile	Arg	Ile	Glu	Gly	Met	Tyr	Met	Asp	Glu	Gln	Glu	Leu	Phe	Asp	Leu
				85				90					95		
Arg	Arg	Ser	Leu	Glu	Thr	Ile	Arg	Asp	Ile	Ile	Arg	Phe	Leu	Gln	Arg
				100				105					110		
Asn	Asp	Glu	Glu	Glu	Ser	Asp	Cys	Pro	Tyr	Pro	Ser	Leu	Lys	Lys	Leu
	115				120				125						
Ala	Gly	Asp	Ile	Thr	Val	Phe	Pro	Gln	Leu	Ile	Thr	Lys	Ile	Asp	Gly
	130				135				140						
Ile	Leu	Asn	Lys	Tyr	Gly	Lys	Ile	Lys	Asp	Asn	Ala	Ser	Thr	Glu	Leu
	145				150				155					160	
Ser	Arg	Ile	Arg	Arg	Glu	Leu	Ala	Asn	Thr	Met	Gly	Ser	Ile	Ser	Arg
				165				170					175		
Ser	Leu	Asn	Ser	Ile	Leu	Arg	Asn	Ala	Gln	Ser	Glu	Gly	Tyr	Val	Asp
				180				185					190		
Lys	Asp	Val	Ala	Pro	Thr	Met	Arg	Asp	Gly	Arg	Leu	Val	Ile	Pro	Val
	195				200				205						
Ala	Pro	Gly	Leu	Lys	Arg	Lys	Ile	Lys	Gly	Ile	Val	His	Asp	Glu	Ser
	210				215				220						
Ala	Ser	Gly	Lys	Thr	Val	Phe	Ile	Glu	Pro	Ala	Glu	Val	Val	Glu	Ala
	225				230				235					240	
Asn	Asn	Arg	Ile	Arg	Glu	Leu	Glu	Gly	Asp	Glu	Arg	Arg	Glu	Ile	Ile
				245				250					255		
Arg	Ile	Leu	Thr	Glu	Phe	Ser	Asn	Thr	Leu	Arg	Pro	Ser	Ile	Pro	Glu
	260				265				270						
Ile	Leu	Gln	Ser	Tyr	Glu	Phe	Leu	Ala	Glu	Ile	Asp	Phe	Ile	Arg	Ala
	275				280				285						
Lys	Ser	His	Phe	Ala	Ile	Gln	Thr	Asn	Ser	Ile	Lys	Pro	Ser	Leu	Glu
	290				295				300						
Asn	Glu	Gln	Leu	Leu	Asp	Trp	Thr	Met	Ala	Val	His	Pro	Leu	Leu	Gln
	305				310				315					320	
Leu	Ser	Leu	Ala	Lys	His	Gly	Lys	Lys	Val	Val	Pro	Leu	Asp	Ile	Glu
				325				330					335		
Leu	Asn	Leu	Lys	Arg	Arg	Ile	Leu	Ile	Ile	Ser	Gly	Pro	Asn	Ala	Gly
				340				345					350		
Gly	Lys	Ser	Val	Cys	Leu	Lys	Thr	Val	Gly	Leu	Leu	Gln	Tyr	Met	Leu
	355				360				365						
Gln	Cys	Gly	Met	Leu	Val	Pro	Met	His	Glu	Arg	Ser	His	Val	Gly	Leu
	370				375				380						
Phe	Gly	Ser	Ile	Phe	Ile	Asp	Ile	Gly	Asp	Glu	Gln	Ser	Ile	Glu	Asp
	385				390				395					400	
Asp	Leu	Ser	Thr	Tyr	Ser	Ser	His	Leu	Thr	Asn	Met	Lys	Ile	Met	Met
				405				410					415		
Lys	Asn	Cys	Asn	Glu	Arg	Ser	Leu	Ile	Leu	Ile	Asp	Glu	Phe	Gly	Gly
	420				425				430						

Gly Thr Glu Pro Gln Ile Gly Gly Ala Ile Ala Glu Ala Val Leu Lys
 435 440 445
 Arg Phe Asn Ile Lys Gly Thr Phe Gly Val Ile Thr Thr His Tyr Gln
 450 455 460
 Asn Leu Lys His Phe Ala Glu Asp His Glu Gly Val Val Asn Gly Ala
 465 470 475 480
 Met Leu Tyr Asp Arg His Leu Met Gln Ala Leu Phe Gln Leu Gln Ile
 485 490 495
 Gly Asn Pro Gly Ser Ser Phe Ala Val Glu Ile Ala Arg Lys Ile Gly
 500 505 510
 Leu Pro Glu Asp Val Ile Ala Asp Ala Ser Glu Ile Val Gly Ser Glu
 515 520 525
 Tyr Ile Asn Ala Asp Lys Tyr Leu Gln Asp Ile Val Arg Asp Lys Arg
 530 535 540
 Tyr Trp Glu Gly Lys Arg Gln Thr Ile Arg Gln Arg Glu Lys His Met
 545 550 555 560
 Glu Glu Thr Ile Ala Arg Tyr Gln Ala Glu Met Glu Glu Leu Gln Lys
 565 570 575
 Ser Arg Lys Glu Ile Ile Arg Gln Ala Lys Glu Glu Ala Glu Arg Leu
 580 585 590
 Leu Gln Glu Ser Asn Ala Arg Ile Glu Asn Thr Ile Arg Thr Ile Lys
 595 600 605
 Glu Ala Gln Ala Glu Lys Glu Lys Thr Arg Leu Val Arg Gln Glu Leu
 610 615 620
 Ala Asp Phe Arg Glu Ser Ile Asp Asn Leu Thr Ser Lys Glu Gln Glu
 625 630 635 640
 Asp Lys Ile Ala Arg Lys Met Glu Lys Leu Lys Glu Lys Gln Asn Arg
 645 650 655
 Lys Lys Glu Lys Lys Gln Asn Gly Thr Lys Glu Gln Pro Ala Val Gln
 660 665 670
 Gln Thr Pro Lys Ala Thr Pro Ile Thr Glu Gly Cys Pro Val Arg Ile
 675 680 685
 Lys Gly Gln Ser Ser Val Gly Glu Val Leu Glu Ile Asn Gly Lys Asn
 690 695 700
 Ala Val Val Ala Phe Gly Ser Ile Lys Thr Thr Val Lys Thr Glu Arg
 705 710 715 720
 Leu Glu Arg Ser Asn Ala Val Pro Gln Lys Gln Glu Ser Ala Lys Ser
 725 730 735
 Ser Phe Val Ser Asn Gln Thr Gln Asp Ser Met Tyr Glu Lys Lys Leu
 740 745 750
 Asn Phe Lys Gln Asp Ile Asp Val Arg Gly Met Arg Gly Asp Glu Ala
 755 760 765
 Leu Gln Ala Val Thr Tyr Phe Val Asp Asp Ala Ile Leu Val Gly Met
 770 775 780
 Ser Arg Val Arg Ile Leu His Gly Thr Gly Thr Gly Ile Leu Arg Thr
 785 790 795 800
 Leu Ile Arg Gln Tyr Leu Gln Thr Ile Pro Gly Val Arg His Phe Ala
 805 810 815
 Asp Glu His Ile Gln Leu Gly Gly Ala Gly Ile Thr Val Val Asp Leu
 820 825 830
 Ala

<210> 9187
 <211> 512
 <212> PRT
 <213> B.fragilis

<400> 9187

Ser Cys Pro Tyr Phe Thr Ser Phe Ser Gly Gly Thr Phe Glu Lys Val
 1 5 10 15
 Ile Ser Arg Arg Asn Leu Cys Gln His Glu Ser Phe Leu Tyr Phe Cys
 20 25 30
 Ala Ile Phe Leu Lys Thr Thr Ser Lys Lys Asn His Met Gly Gly Phe
 35 40 45
 Phe Gly Thr Val Ser Lys Thr Ser Cys Val Thr Asp Leu Phe Tyr Gly
 50 55 60
 Thr Asp Tyr Asn Ser His Leu Gly Thr Lys Arg Gly Gly Leu Ala Thr
 65 70 75 80
 Tyr Ser Glu Glu Gln Gly Phe Ile Arg Ser Ile His Asn Leu Gln Ser
 85 90 95
 Ser Tyr Phe Arg Thr Lys Phe Glu Glu Leu Asp Lys Phe Lys Gly
 100 105 110
 Asn Ala Gly Ile Gly Ile Ile Ser Asp Thr Asp Ala Gln Pro Ile Ile
 115 120 125
 Ile Asn Ser His Leu Gly Arg Phe Ala Ile Val Thr Val Ala Lys Val
 130 135 140
 Thr Asn Leu Lys Glu Leu Glu Glu Leu Leu Ser Gln Asn Met His
 145 150 155 160
 Phe Ala Glu Leu Ser Ser Gly Ser Thr Asn Gln Thr Glu Leu Ile Ala
 165 170 175
 Leu Leu Ile Ile Gln Gly Lys Asn Phe Val Glu Gly Ile Glu Asn Val
 180 185 190
 Tyr Asn His Ile Lys Gly Ser Cys Ser Met Leu Leu Leu Thr Glu Asp
 195 200 205
 Gly Val Ile Ala Ala Arg Asp Lys Trp Gly Arg Thr Pro Ile Val Ile
 210 215 220
 Gly Lys Lys Glu Gly Ala Tyr Ala Ala Thr Ser Glu Ser Asn Ser Phe
 225 230 235 240
 Pro Asn Leu Asp Phe Glu Ile Glu Arg Tyr Leu Gly Pro Gly Glu Ile
 245 250 255
 Val Arg Met His Ala Asp Arg Leu Glu Gln Leu Arg Lys Pro Asp Asp
 260 265 270
 Lys Met Gln Ile Cys Ser Phe Leu Trp Val Tyr Tyr Gly Phe Pro Asn
 275 280 285
 Ser Cys Tyr Glu Gly Arg Asn Val Glu Glu Val Arg Phe Thr Ser Gly
 290 295 300
 Leu Lys Met Gly Glu Gln Asp Asp Cys Asp Ala Asp Cys Val Cys Gly
 305 310 315 320
 Ile Pro Asp Ser Gly Ile Gly Gln Ala Leu Gly Tyr Ala Glu Gly Lys
 325 330 335
 Gly Ile Pro Tyr His Arg Ala Ile Thr Lys Tyr Thr Pro Thr Trp Pro
 340 345 350
 Arg Ser Phe Thr Pro Ser Lys Gln Glu Leu Arg Ser Leu Val Ala Lys
 355 360 365
 Met Lys Leu Ile Pro Asn Arg Ala Met Leu Gln Asp Lys Arg Ile Ile
 370 375 380
 Phe Cys Asp Asp Ser Ile Val Arg Gly Thr Gln Leu His Asp Asn Val
 385 390 395 400
 Lys Ile Leu Phe Asp Tyr Gly Ala Lys Glu Val His Met Arg Ile Gly
 405 410 415
 Cys Pro Pro Leu Ile Tyr Gly Cys Pro Phe Ile Gly Phe Thr Ala Ser
 420 425 430
 Lys Ser Asp Met Glu Leu Ile Thr Arg Gln Ile Ile Lys Glu Leu Glu
 435 440 445
 Gly Asp Glu Asn Lys Asn Leu Asp Lys Tyr Ala Thr Thr Gly Ser Pro
 450 455 460
 Glu Tyr Glu Lys Met Val Gly Ile Ile Ala Lys Arg Phe Gly Leu Ser

5203

465	470	475	480
Ser Leu Lys Phe Asn Thr Ile Glu Thr Leu Ile Glu Ala Ile Gly Leu			
485	490	495	
Pro Lys Cys Lys Val Cys Thr His Cys Phe Asp Gly Ser Ser Cys Phe			
500	505	510	

<210> 9188

<211> 526

<212> PRT

<213> B.fragilis

<400> 9188

Ile Ile His Leu Lys Ser Ile Phe Asp Ile Met Leu Asp Ser Ala Ile			
1	5	10	15
Lys Glu Gln Leu Arg Thr Ile Phe Ala Ala Leu Glu Ala Asn Tyr Thr			
20	25	30	
Phe Asp Ile Thr Val Ser Pro Gln His Glu Ser Arg Thr Glu Leu Leu			
35	40	45	
Glu Leu Leu Asn Asp Val Ala Ser Cys Ser Glu Lys Leu Ser Cys Arg			
50	55	60	
Ile Asn Glu Gly Lys Gly Leu Glu Phe Thr Leu Leu Lys Gly Glu His			
65	70	75	80
Arg Thr Gly Ile Thr Phe Arg Ala Val Pro Asn Gly His Glu Phe Ser			
85	90	95	
Ser Leu Leu Leu Ala Ile Leu Asn Thr Asp Gly Lys Gly Lys Asn Phe			
100	105	110	
Pro Asp Glu Gly Ile Cys Asn Arg Val Lys Ser Leu Lys Gly Pro Val			
115	120	125	
Arg Leu Thr Thr Tyr Val Ser Leu Thr Cys Thr Asn Cys Pro Asp Val			
130	135	140	
Val Gln Ala Leu Asn Ala Met Thr Thr Leu Asn Gly Gln Ile Gln His			
145	150	155	160
Gln Thr Val Asp Gly Ala Ile Asn Gln Ala Glu Val Glu Ala Leu Lys			
165	170	175	
Ile Gln Gly Val Pro Ser Val Phe Ala Asp Gly Lys Leu Ile His Val			
180	185	190	
Gly Arg Gly Asp Phe Gly Glu Leu Leu Ala Lys Leu Glu Glu Gln Tyr			
195	200	205	
Gly Thr Glu Thr Asn Ser Ala Glu Thr Ser Ile Lys Lys Tyr Asp Val			
210	215	220	
Ile Val Ala Gly Gly Pro Ala Gly Ser Ala Ala Ala Ile Tyr Ser			
225	230	235	240
Ala Arg Lys Gly Leu Asn Val Ala Val Ile Ala Glu Arg Ile Gly Gly			
245	250	255	
Gln Val Lys Glu Thr Val Gly Ile Glu Asn Leu Ile Ser Val Pro Ser			
260	265	270	
Thr Thr Gly Ser Gln Leu Ala Asp Asn Leu Lys Thr His Met Ser Gln			
275	280	285	
Tyr Pro Ile Asp Leu Leu Glu His Arg Gln Ile Glu Lys Ile Glu Leu			
290	295	300	
Asp Gly Lys Asp Lys Val Leu Thr Ala Lys Gly Gly Glu Arg Phe Ser			
305	310	315	320
Ala Pro Ala Val Ile Val Ala Thr Gly Ala Ser Trp Arg Lys Leu Asn			
325	330	335	
Val Pro Gly Glu Ala Glu Tyr Ile Gly Arg Gly Val Ala Phe Cys Pro			
340	345	350	
His Cys Asp Gly Pro Phe Tyr Lys Gly Lys Gln Val Ala Val Val Gly			
355	360	365	
Gly Gly Asn Ser Gly Ile Glu Ala Ala Ile Asp Leu Ala Gly Ile Cys			

370	375	380
Ser Lys Val Thr Val Leu Glu Phe Met Asp Glu Leu Lys Ala Asp Gln		
385	390	395
Val Leu Gln Glu Lys Leu Lys Ser Leu Pro Asn Val Glu Val Leu Val		400
405	410	415
His Ser Gln Thr Thr Glu Val Val Gly Asn Gly Asp Lys Val Thr Gly		
420	425	430
Ile Arg Val Lys Asp Arg Lys Thr Glu Glu Glu Arg Val Ile Ser Leu		
435	440	445
Asp Gly Ile Phe Val Gln Ile Gly Leu Val Ala Asn Ser Gly Ile Phe		
450	455	460
Arg Asp Val Val Glu Val Asn Arg Pro Gly Glu Ile Val Ile Asp Ala		
465	470	475
His Cys Arg Thr Asn Val Pro Gly Ile Tyr Ala Ala Gly Asp Val Ser		480
485	490	495
Thr Val Pro Tyr Lys Gln Ile Ile Ala Met Gly Glu Gly Ala Lys		
500	505	510
Ala Ala Leu Ala Ala Phe Glu Asp Arg Met Arg Gly Glu Ile		
515	520	525

<210> 9189

<211> 282

<212> PRT

<213> B.fragilis

<400> 9189

Ile Leu Asn Leu Glu Thr Thr Ile Leu Leu Thr Ile Lys Thr His Lys		
1	5	10
Met Lys Lys Arg Ile Val Phe Ile Ala Ala Leu Leu Cys Gly Met Cys		15
20	25	30
Phe Thr Thr Ala Ser Ala Gln Phe Lys Ile Gly Gly Lys Lys Ile Asn		
35	40	45
Val Gly Lys Val Val Gln Ala Gly Ser Asp Ala Ala Lys Ala Ile Thr		
50	55	60
Leu Ser Asp Ser Asp Ile Ala Ala Met Ser Lys Glu Tyr Met Gln Trp		
65	70	75
Met Asp Thr His Asn Pro Leu Thr Ala Ala Asp Ser Glu Tyr Gly Lys		80
85	90	95
Arg Leu Glu Lys Leu Thr Gly His Ile Lys Glu Val Asp Gly Leu Lys		
100	105	110
Val Asn Phe Gly Val Tyr Glu Val Val Asp Val Asn Ala Phe Ala Cys		
115	120	125
Gly Asp Gly Ser Val Arg Ile Cys Ala Gly Leu Met Asp Ile Met Thr		
130	135	140
Asp Asp Glu Val Met Ala Val Val Gly His Glu Ile Gly His Val Ile		
145	150	155
His Thr Asp Ser Lys Asp Ala Met Lys Ser Ala Tyr Leu Arg Ser Ala		160
165	170	175
Val Lys Asn Ala Ala Gly Ala Ala Ser Ser Thr Val Ser Lys Leu Thr		
180	185	190
Asp Ser Glu Leu Gly Ala Met Ala Glu Ala Leu Ala Gly Ala Gln Tyr		
195	200	205
Ser Gln Lys Gln Glu Ser Glu Ala Asp Asp Tyr Gly Phe Glu Phe Ser		
210	215	220
Ile Lys His Asn Ile Asp Pro Tyr Ala Met Tyr Asn Ala Leu Asn Lys		
225	230	235
Leu Leu Glu Leu Ser Ala Glu Ala Pro Lys Glu Ser Lys Phe Gln Lys		240
245	250	255
Met Phe Ser Ser His Pro Asp Thr Ala Lys Arg Val Ala Arg Ala Lys		

260	265	270
Glu Lys Ala Asp Asn Tyr Thr Lys Asn Lys		
275	280	

<210> 9190

<211> 874

<212> PRT

<213> B.fragilis

<400> 9190

Asp Arg Thr His Asn Gly Lys Thr Asn Leu Pro Ser Asn Pro Arg Tyr			
1	5	10	15
Glu Met Lys Thr Pro Lys Ile Leu Lys Val His Leu Leu Leu Tyr Leu			
20	25	30	
Phe Cys Leu Ser Val Ser Ala Gln Thr Thr Asp Ser Ile Val Gln Lys			
35	40	45	
Leu Ser Gln Tyr Ala Tyr Leu Ile Asp Asn Phe Ser Lys Tyr Ile Pro			
50	55	60	
Gln Glu Lys Val Tyr Met Gln Phe Asp Asn Thr Ser Tyr Tyr Gln Gly			
65	70	75	80
Asp Asn Ile Trp Phe Lys Cys Phe Leu Val Thr Ser Asp Leu His Pro			
85	90	95	
Ala Thr Asp Leu Ser Lys Thr Leu Tyr Val Glu Leu Leu Asn Pro Gly			
100	105	110	
Gly Glu Val Ile Asp Lys Arg Thr Leu Lys Ile Glu Asn Gly Gln Cys			
115	120	125	
His Gly Asp Phe Thr Leu Gly Gln Leu Pro Phe Tyr Ser Gly Phe Tyr			
130	135	140	
Glu Ile Arg Ala Tyr Thr Lys Tyr Met Leu Asn Phe Gly Gly Asp Ile			
145	150	155	160
Ile Phe Ser Arg Leu Leu Pro Val Phe Asp Lys Pro Lys Ala Glu Gly			
165	170	175	
Asp Phe Thr Glu Lys Glu Met Arg Lys Tyr Ala Thr Gly Asn Tyr Pro			
180	185	190	
Leu Glu Arg Pro Lys Pro Thr Lys Ser Lys Lys Val Asn Leu Lys Phe			
195	200	205	
Phe Pro Glu Gly Asn Leu Val Arg Gly Ile Glu Ser Glu Val Ala			
210	215	220	
Phe Glu Ala Thr Asp Thr Tyr Gly Asn Pro Ile Thr Leu Thr Gly Ile			
225	230	235	240
Val Ile Asn Glu Glu Lys Gln Glu Thr Ala Arg Phe Asn Val Thr His			
245	250	255	
Asp Gly Arg Gly Ile Phe Asn Tyr Thr Pro Thr Gly Glu Lys Gln Lys			
260	265	270	
Ala Ile Val Glu Phe Asn Gly Lys Lys His Gln Phe Asn Met Pro Glu			
275	280	285	
Ala Leu Pro Glu Gly Tyr Thr Leu His Ala Asp Asn Leu Ser Tyr Thr			
290	295	300	
Asp Ser Ile Glu Ile Ala Val Gln Lys Asn Ser Asn Thr Pro Ser Asp			
305	310	315	320
Val Leu Gly Leu Ala Val Ile Ser Gly Gly Lys Leu Tyr Lys Phe Cys			
325	330	335	
Leu Ile Asp Val Glu Gly Asn Glu Thr Ile Arg Phe Lys Ile Asp Lys			
340	345	350	
Ser Lys Leu Val Pro Gly Val Ser Arg Ile Ala Leu Phe Asn Ser Asn			
355	360	365	
Gly Glu Val Leu Ser Asp Arg Leu Ile Phe Thr Tyr Pro Lys Glu Gln			
370	375	380	
Leu Ser Val Gln Val Gln Ala Asp Lys Glu Thr Tyr Asp Pro Tyr Glu			

B. fragilis protein sequence

385	390	395	400
Leu Val Asn Leu Glu Phe Thr Leu Thr Gly Lys Glu Lys Ile Pro Val			
405	410	415	
Gln Thr Pro Phe Ala Leu Ser Val Arg Asp Gly Met Asn Glu Val Glu			
420	425	430	
Ser Gly His Asn Met Leu Thr Asp Leu Leu Leu Met Ser Glu Ile Lys			
435	440	445	
Gly Tyr Val Asn Asn Pro Gln Tyr Tyr Phe Glu Ser Arg Asp Asp Thr			
450	455	460	
Arg Arg Lys Ala Ile Asp Leu Leu Arg Val Gln Gly Trp Arg Arg			
465	470	475	480
Tyr Ser Trp Lys Gln Met Thr Gly Ile Glu Ser Leu Asp Leu Lys Tyr			
485	490	495	
Gly Pro Glu Gln Gly Ile Glu Thr Arg Gly Gln Val Val Ser Phe Val			
500	505	510	
Arg Gln Leu Pro Lys Pro Asn Val Glu Val Ser Cys Phe Leu Lys Lys			
515	520	525	
Arg Gly Glu Asn Glu Glu Asn Ser Ser Phe Ile Glu Ala Ile Thr Thr			
530	535	540	
Asp Ser Leu Gly His Phe Ser Leu Ile Ser Asp Ile Tyr Gly Lys Trp			
545	550	555	560
Asp Leu Ile Leu Ala Val Thr Val Asn Arg Lys Lys Lys Asp Tyr Arg			
565	570	575	
Ile Leu Leu Asp Arg Leu Phe Ser Pro Ala Pro Arg Lys Tyr His Tyr			
580	585	590	
Ala Asp Met Gln Val Ser Ile Ala Asn Ala Glu Lys Glu Lys Glu Leu			
595	600	605	
Met Pro Glu Val Glu Thr Thr Pro Leu Pro Glu Glu Asp Ile Glu Ala			
610	615	620	
Phe Phe Ala Ala Tyr Ala Asp Ser Leu Ala Lys Ala Asp Asn His Glu			
625	630	635	640
Lys Asn Tyr Arg Leu Lys Glu Val Thr Ile Lys Ala Lys Lys Arg Thr			
645	650	655	
Lys Glu Lys Glu Ile Tyr Glu Ser Arg Ser Lys Ser Ile Ala Tyr Tyr			
660	665	670	
Asp Val His Ser Glu Leu Asp Asp Ile Lys Asp Ser Gly Lys Phe Ile			
675	680	685	
Gly Asp Asp Ile His Glu Leu Met Met Asn Met Asn Lys Asn Phe Ser			
690	695	700	
Pro Val Ser Gly Arg Asn Tyr Leu Tyr Tyr Lys Ser Lys Met Pro Leu			
705	710	715	720
Phe Val Ile Asn Tyr Glu Arg Thr Arg His Thr Glu Met Asp Tyr Asn			
725	730	735	
Lys Tyr Lys Tyr Ile Arg Leu Glu Ala Ile Lys Ser Ile Tyr Ile Thr			
740	745	750	
Glu Asn Leu Ser Thr Ile Cys Gln Tyr Ala Asp Pro Arg Leu Thr Pro			
755	760	765	
Phe Asp Val Ser Asp Leu Tyr Ser Cys Ala Val Leu Ile Glu Thr Tyr			
770	775	780	
Pro Glu Gly Lys Ile Pro Thr Glu Ala Gly Lys Gly Val Arg Lys Thr			
785	790	795	800
Trp Leu Asp Gly Tyr Ser Gln Val Lys Glu Phe Tyr His Pro Asn Tyr			
805	810	815	
Ser Val Leu Pro Pro Val Pro Asp Tyr Arg Arg Thr Leu Tyr Trp Asn			
820	825	830	
Pro Ser Val Thr Pro Asn Lys Glu Gly Lys Ala His Ile Arg Phe Tyr			
835	840	845	
Asn Asn Ser Arg Cys Arg Lys Leu Lys Ile Ser Ala Glu Thr Ile Thr			
850	855	860	

Thr Asn Gly Leu Ile Gly Thr Tyr Gly Asn
 865 870

<210> 9191

<211> 95

<212> PRT

<213> B.fragilis

<400> 9191

Leu Ala Cys His Arg Ser Gln Glu His Asn Asn Gln Ile Thr Phe
 1 5 10 15
 Ala Gly Cys Thr Asp Gly Gln Lys Asp Tyr Thr Leu Ile Leu Tyr Tyr
 20 25 30
 Glu Ile Asn Arg Ile Val Cys Cys Met Leu Phe Val Ile Ser Cys Leu
 35 40 45
 Gly Lys Ser Gln Pro Lys Gln Gln Ser Ala Asp Leu Tyr Arg Leu Pro
 50 55 60
 Leu Cys Asn Glu Cys Val Lys Asn Glu Ile Tyr Cys Ala Leu Thr Leu
 65 70 75 80
 Met Gly Ser Val Glu Val Asp Asp Leu Asn Glu Asn Thr Asn Lys
 85 90 95

<210> 9192

<211> 64

<212> PRT

<213> B.fragilis

<400> 9192

Ser Ile Cys Leu Tyr Thr Gln Thr Tyr Phe Leu Ser Asn Ile Ile
 1 5 10 15
 Leu Gly Tyr Val Tyr Glu Ile Phe Leu Phe Gln Asn Asn Leu Tyr Phe
 20 25 30
 Cys Leu Tyr Arg Leu Leu Tyr Leu His Tyr Ile Leu Ile Ser Thr Phe
 35 40 45
 Phe Asp Phe Leu Glu Leu Ile Phe Ile Cys Ile Phe Asp Leu Tyr Ile
 50 55 60

<210> 9193

<211> 322

<212> PRT

<213> B.fragilis

<400> 9193

Thr Tyr Arg Leu Met Asp Ile Gln Thr Ala Lys Gln Ile Lys Ile Ala
 1 5 10 15
 Asp Tyr Leu His Ser Leu Gly Phe Ser Pro Val Lys Gln Gln Gly Ile
 20 25 30
 Asn Leu Trp Tyr Lys Ser Pro Leu Arg Glu Glu Thr Glu Ala Ser Phe
 35 40 45
 Lys Val Asn Thr Glu Arg Asn Gln Trp Tyr Asp Phe Ala Leu Gly Lys
 50 55 60
 Gly Gly Asn Ile Ile Ala Leu Ala Gln Glu Leu Tyr Cys Ser Asp His
 65 70 75 80
 Val Pro Tyr Leu Leu Gln Lys Ile Glu Glu Gln Thr Pro Arg Ile Arg
 85 90 95
 Pro Val Ser Phe Ser Phe Gly Lys Gln Ser Ser Ser Glu Pro Ser Phe
 100 105 110
 Gln Gln Leu Glu Ile Val Pro Leu Ser Ser Pro Ala Leu Leu Ala Tyr
 115 120 125

Leu Gln Glu Arg Gly Ile Asn Ile Ala Met Ala Lys Arg Glu Cys Ser
 130 135 140
 Glu Ala His Phe Thr His Asn Gly Lys Arg Tyr Phe Ala Ile Ala Phe
 145 150 155 160
 Pro Asn Val Ser Gly Gly Tyr Glu Ile Arg Asn Gln Tyr Phe Lys Gly
 165 170 175
 Cys Ile Ala Pro Lys Glu Ile Ser His Ile Lys Gln Pro Gly Thr Ala
 180 185 190
 Arg Glu Thr Cys Tyr Val Phe Glu Gly Phe Met Asp Tyr Leu Ser Phe
 195 200 205
 Leu Thr Leu Arg Leu Glu Asn Cys Pro Lys Tyr Pro Glu Leu Asp Arg
 210 215 220
 Gln Asp Tyr Met Val Leu Asn Ser Val Ala Asn Val Ser Lys Ala Ile
 225 230 235 240
 Tyr Pro Leu Gly Ser Tyr Glu Arg Ile His Cys Phe Phe Asp Asn Asp
 245 250 255
 Arg Ala Gly Met Glu Ala Met Gln Gln Ile Tyr Lys Glu Tyr Gly Arg
 260 265 270
 Asp Leu Tyr Ile Arg Asp Ala Ser Gln Thr Tyr Ser Gly Cys Lys Asp
 275 280 285
 Leu Asn Glu Tyr Leu Gln Lys Gln Thr Glu Arg Asn Arg Gln Val Gln
 290 295 300
 Ser Ala Lys Gly Val Arg Ser Gln Pro Pro Lys Lys Lys Asn Gly Phe
 305 310 315 320
 Arg Leu

<210> 9194

<211> 106

<212> PRT

<213> B.fragilis

<400> 9194

Gln Lys Leu His Asn Tyr Gln Asn Ile Arg Gln Ile Lys Glu Asn Lys
 1 5 10 15
 Thr Ile Gly Ser Gly Asp Phe Gln Tyr Ile Lys Asn Ala Cys Lys Leu
 20 25 30
 Leu Thr Tyr Arg Arg Leu His His Leu Ala Glu Arg Gln Gly Phe Glu
 35 40 45
 Pro Arg Val Pro Arg Ser Thr Thr Val Phe Lys Thr Ala Ala Ile Asp
 50 55 60
 His Ser Ala Thr Ser Pro Glu Leu Arg Leu Ser Ser Ala Phe Leu Leu
 65 70 75 80
 Lys Arg Cys Lys Gly Thr Asn His Phe Leu Thr Cys Lys Leu Phe Arg
 85 90 95
 Lys Lys Ile Leu Glu Lys Tyr Ile Trp Lys
 100 105

<210> 9195

<211> 186

<212> PRT

<213> B.fragilis

<400> 9195

Glu Lys Arg Gln Lys Met Lys Ile Ala Gln Gln Leu Lys Glu Lys Asn
 1 5 10 15
 Ile Ala Glu Tyr Leu Ile Tyr Met Trp Gln Ile Glu Asp Leu Ile Arg
 20 25 30
 Ala Asn Asp Cys Asp Val Asp Arg Ile Glu Glu Asn Ile Val Ser Arg

35	40	45
Tyr Gln Val Ser Asp Glu Glu Arg Arg Glu Leu Thr Glu Trp Tyr Ala		
50	55	60
Asn Leu Ala Ser Met Met Arg Glu Glu Gly Val Arg Glu Lys Gly His		
65	70	75
Leu Gln Ile Asn Arg Asn Val Ile Ile Asn Leu Thr Glu Leu His Ala		
85	90	95
Ala Leu Leu Ala Ser Pro Lys Phe Pro Phe Tyr Ser Ser Ala Tyr Phe		
100	105	110
Lys Ala Leu Pro Phe Ile Val Glu Leu Arg Asn Lys Asn Gly Gln Lys		
115	120	125
Glu Glu Pro Glu Leu Glu Thr Cys Phe Glu Ala Leu Tyr Gly Met Met		
130	135	140
Leu Leu Arg Leu Gln Lys Lys Pro Val Ser Pro Glu Thr Thr Lys Ala		
145	150	155
Met Glu Ala Ile Ser Ser Phe Leu Ser Met Leu Ala Asn Tyr Tyr Asp		
165	170	175
Lys Asp Arg Lys Gly Glu Leu Lys Leu Glu		
180	185	

<210> 9196

<211> 72

<212> PRT

<213> B.fragilis

<400> 9196

Val Ser Met Gln Phe Lys Glu Gln Lys Leu Phe Phe Asn Thr His Thr		
1	5	10
Asn Ser Val Asn Leu Leu Thr Lys Glu Lys Tyr Glu Asn Leu Leu Ile		
20	25	30
Phe Arg Ile Ser Ala Asn Arg Thr Leu Arg Leu Pro Ile Arg Phe Val		
35	40	45
Ile Val Gly Ser Phe Arg Tyr His Gln Asn Tyr Thr Thr Phe Ile Lys		
50	55	60
Lys Ala Thr Thr Lys Ser Ile Phe		
65	70	

<210> 9197

<211> 83

<212> PRT

<213> B.fragilis

<400> 9197

Val Pro Glu Gln Gln Lys Val Ala Gln Asp Phe Ala Met Ser Glu Phe		
1	5	10
Ser Leu Ile Leu Val Leu Gln Lys Glu Asn Lys Gln Asn Ser Asn Met		
20	25	30
Thr Trp Gln Lys Tyr Lys Leu Asn Leu Arg Asn Ser His Leu Leu Glu		
35	40	45
Glu Phe Phe Gln Ser Trp Arg Asn Leu Thr Pro Cys Phe His Pro Leu		
50	55	60
Ser Thr Gln His Trp Val Arg Asp Ala Ala Val Ser Ser Asp Ile Ser		
65	70	75
Ser Ala Arg		80

<210> 9198

<211> 65

<212> PRT

<213> B.*fragilis*

<400> 9198

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Lys Ser Arg Gln Tyr Thr Asp Phe Arg Lys Ile Lys Asp Lys Val Asn
1           5          10          15
Tyr Pro Val Tyr Arg Gly Lys Cys Lys Leu Gln Met Leu Asp Ile Gln
20          25          30
Leu Asp Ile Ala Glu Asp Arg Phe Pro Val Ser Pro Leu Lys Thr Lys
35          40          45
Lys Gln Ser Tyr Lys Ser Leu Asn Phe Asn Asn Ser Arg Thr Phe Phe
50          55          60
Phe
65

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<210> 9199

<211> 310

<212> PRT

<213> B.*fragilis*

<400> 9199

305

310

<210> 9200

<211> 358

<212> PRT

<213> B.fragilis

<400> 9200

Ser Leu His Asn Asp Ile Val Phe Phe Glu Leu Ile Leu Tyr Phe Phe
 1 5 10 15
 Phe Leu Ser Gly Thr Lys Ile Arg His Lys Met Ile Arg Val Lys Leu
 20 25 30
 Lys Ile Ser Ile Phe Ala Leu Ile Asp Ser Ile Ser Leu Ile Asn Gln
 35 40 45
 Arg Thr Met Thr Ile Gln Gln Leu Glu Tyr Ile Leu Ala Val Asp Gln
 50 55 60
 Phe Arg His Phe Ala Lys Ala Ala Glu Tyr Cys Arg Val Thr Gln Pro
 65 70 75 80
 Thr Leu Ser Ala Met Ile Gln Lys Leu Glu Asp Glu Leu Gly Val Lys
 85 90 95
 Leu Phe Asp Arg Ser Met Thr Pro Val Cys Pro Thr Ala Ile Gly Lys
 100 105 110
 Lys Val Leu Glu Gln Ala Arg Lys Ile Leu Ser Glu Val Ile Cys Val
 115 120 125
 Lys Glu Ile Ile Ser Glu Glu Gln His Ser Leu Ser Gly Thr Phe Arg
 130 135 140
 Leu Ala Val Leu Pro Thr Ile Ala Pro Tyr Leu Leu Pro Arg Phe Phe
 145 150 155 160
 Pro Gln Leu Met Glu Lys Tyr Pro Asp Leu Asp Ile Arg Val Met Glu
 165 170 175
 Met Lys Thr Pro Asp Ile Arg Lys Ala Leu Leu Thr Gly Glu Ala Asp
 180 185 190
 Ala Ala Ile Ile Ala Ser Met Leu Asp Asp Ala Ala Leu Thr Glu Glu
 195 200 205
 Thr Leu Phe Tyr Glu Gln Phe Leu Gly Tyr Val Ser Lys Lys Glu Pro
 210 215 220
 Leu Phe Lys His Asp Val Ile Arg Thr Ser Asp Val Thr Gly Glu Arg
 225 230 235 240
 Leu Trp Leu Leu Asp Glu Gly His Cys Phe Arg Asp Gln Leu Val Arg
 245 250 255
 Phe Cys Gln Met Glu Ala Val Lys Ile Ser Gln Met Ala Tyr Arg Leu
 260 265 270
 Gly Ser Met Glu Thr Phe Met His Met Val Glu Ser Gly Lys Gly Ile
 275 280 285
 Thr Phe Ile Pro Glu Leu Ala Val Met Gln Leu Ser Glu Glu Gln Lys
 290 295 300
 Glu Leu Val Arg Pro Phe Ala Ile Pro Arg Pro Thr Arg Gln Ile Val
 305 310 315 320
 Leu Val Thr Arg Lys Asp Phe Ile Arg Thr Ser Leu Leu Gln Val Leu
 325 330 335
 Lys Glu Glu Ile Gln Ala Ala Val Pro Lys Glu Met Leu Thr Leu Gln
 340 345 350
 Ala Val Gln Cys Leu Val
 355

<210> 9201

<211> 308

<212> PRT

<213> B.fragilis

<400> 9201

Leu Met Asn Lys Lys Pro Ile Ser Pro Val Cys Trp Val Pro Thr Val
 1 5 10 15
 Tyr Phe Ala Met Gly Leu Pro Phe Val Ala Leu Ser Met Val Ser Val
 20 25 30
 Leu Met Phe Ser Asp Met Glu Val Ser Asn Ala Gln Ile Ala Phe Trp
 35 40 45
 Thr Ser Leu Ile Met Leu Pro Trp Thr Leu Lys Pro Leu Trp Ser Pro
 50 55 60
 Phe Leu Glu Met Phe Lys Thr Lys Lys Tyr Phe Val Val Ala Thr Glu
 65 70 75 80
 Ile Ile Thr Gly Leu Ala Phe Ala Leu Val Ala Leu Ser Leu Pro Leu
 85 90 95
 Pro Asp Phe Phe Arg Tyr Ala Ile Ala Leu Met Gly Ile Ile Ala Leu
 100 105 110
 Ser Gly Ala Thr His Asp Ile Ala Gly Asp Gly Val Tyr Leu Thr Glu
 115 120 125
 Leu Thr Ala Thr Gln Gln Ala Lys Tyr Ile Gly Trp Gln Gly Ala Phe
 130 135 140
 Tyr Asn Leu Ala Lys Ile Leu Ala Asn Gly Gly Leu Val Trp Leu Ala
 145 150 155 160
 Gly Met Leu Lys Asp Glu Phe Gly Val Val His Ala Trp Met Ile Val
 165 170 175
 Met Leu Met Cys Ala Gly Ile Met Ile Leu Ile Gly Leu Tyr His Ile
 180 185 190
 Arg Ile Leu Pro Ser Gly Gly Ala Ser Gly Glu Val Asn Thr Met
 195 200 205
 Ser Asp Ala Leu Asn Met Leu Trp Glu Val Ile Arg Ser Phe Phe Gln
 210 215 220
 Lys Lys His Ile Ala Phe Tyr His Ala Phe Ile Ile Trp Tyr Pro Val
 225 230 235 240
 Ala Gln Gly Ile Cys His Gln Asp Gly Thr Val Val Pro Glu Asn Val
 245 250 255
 Gly Cys Arg Met Gly Ile Gly Thr Gln His Ser Gly Tyr Arg Thr Gly
 260 265 270
 Ile Trp Tyr Val Arg Ser Gly Ser Phe Tyr Ser Arg Phe Ala Phe Gly
 275 280 285
 Arg Leu Leu His Phe Gly Phe Arg Thr Ser Glu Asp Phe Val Phe Phe
 290 295 300
 Met Leu Arg Phe
 305

<210> 9202

<211> 165
 <212> PRT
 <213> B.fragilis

<400> 9202

Leu Phe Asp Asn Leu Lys Lys Glu Arg Thr Met Lys Arg Ile Ser Phe
 1 5 10 15
 Leu Leu Ala Ala Leu Leu Met Met Gly Gly Met Val Met Ala Gln Gly
 20 25 30
 Pro Arg Arg Gly Gly Gln Asp Met Asp Pro Lys Thr Arg Ala Glu Arg
 35 40 45
 Met Thr Glu Arg Met Ala Lys Glu Tyr Ser Leu Asn Glu Thr Gln Lys
 50 55 60
 Lys Glu Leu Leu Glu Val Asn Met Ala Phe Val Gln Lys Met Gly Glu
 65 70 75 80

Arg Pro Gly Arg Met Lys Pro Glu Met Arg Gln Gly Lys Lys Gly Gln
 85 90 95
 Ser Gln Ala Thr Asp Ser Cys Thr Cys Lys Gln Asp Arg Arg Lys Ala
 100 105 110
 Pro Arg Met Ser Lys Glu Asp Arg Glu Lys Met Arg Gln Glu Met Lys
 115 120 125
 Ala Ser Arg Glu Ser Tyr Glu Ala Gly Leu Lys Lys Ile Met Thr Lys
 130 135 140
 Asp Gln Tyr Ala Ala Tyr Thr Lys Lys Gln Ala Glu Arg Glu Gln Arg
 145 150 155 160
 Arg Gly Gly Gly Arg
 165

<210> 9203

<211> 532

<212> PRT

<213> B.fragilis

<400> 9203

Phe Phe Ile Leu Asn Ser Arg Asn Met Ala Asp Asn Thr Glu Ile Leu
 1 5 10 15
 Arg Arg Arg Thr Phe Ala Ile Ile Ala His Pro Asp Ala Gly Lys Thr
 20 25 30
 Ser Leu Thr Glu Lys Leu Leu Leu Phe Gly Gly Gln Ile Gln Val Ala
 35 40 45
 Gly Ala Val Lys Ser Asn Lys Ile Lys Lys Thr Ala Thr Ser Asp Trp
 50 55 60
 Met Glu Ile Glu Lys Gln Arg Gly Ile Ser Val Thr Thr Ser Val Met
 65 70 75 80
 Glu Phe Asp Tyr Arg Asp Tyr Lys Ile Asn Ile Leu Asp Thr Pro Gly
 85 90 95
 His Gln Asp Phe Ala Glu Asp Thr Tyr Arg Thr Leu Thr Ala Val Asp
 100 105 110
 Ser Val Ile Ile Val Val Asp Gly Ala Lys Gly Val Glu Thr Gln Thr
 115 120 125
 Arg Lys Leu Met Glu Val Cys Arg Met Arg Asn Thr Pro Val Ile Ile
 130 135 140
 Phe Val Asn Lys Met Asp Arg Glu Gly Lys Asp Pro Phe Asp Leu Leu
 145 150 155 160
 Asp Glu Leu Glu Glu Leu Met Ile Gln Val Arg Pro Leu Ser Trp
 165 170 175
 Pro Ile Glu Gln Gly Pro Arg Phe Lys Gly Val Tyr Asn Ile Tyr Glu
 180 185 190
 Gln Lys Leu Asp Leu Tyr Gln Pro Ser Lys Gln Val Val Thr Glu Lys
 195 200 205
 Val Glu Ile Asp Ile His Ser Asp Glu Leu Asp Arg Gln Ile Gly Asp
 210 215 220
 Thr Leu Ala Asp Lys Leu Arg Gly Asp Leu Glu Leu Ile Glu Gly Val
 225 230 235 240
 Tyr Pro Glu Phe Asp Val Glu Thr Tyr Leu Gln Gly Glu Cys Ala Pro
 245 250 255
 Val Phe Phe Gly Ser Ala Leu Asn Asn Phe Gly Val Gln Glu Leu Leu
 260 265 270
 Asn Cys Phe Val Glu Ile Ala Pro Ala Pro Arg Pro Val His Ala Glu
 275 280 285
 Glu Arg Glu Val Ile Pro Glu Glu Pro Lys Phe Thr Gly Phe Ile Phe
 290 295 300
 Lys Ile Thr Ala Asn Ile Asp Pro Asn His Arg Ser Cys Val Ala Phe
 305 310 315 320

Cys Lys Ile Cys Ser Gly Lys Phe Val Arg Asn Ala Pro Tyr Leu His
 325 330 335
 Val Arg His Gly Lys Thr Met Arg Phe Ser Ser Pro Thr Gln Phe Met
 340 345 350
 Ala Gln Arg Lys Thr Thr Ile Asp Glu Ala Trp Ala Gly Asp Ile Ile
 355 360 365
 Gly Leu Pro Asp Asn Gly Thr Phe Lys Ile Gly Asp Thr Leu Thr Glu
 370 375 380
 Gly Glu Gln Leu His Phe Arg Gly Leu Pro Ser Phe Ser Pro Glu Met
 385 390 395 400
 Phe Lys Tyr Ile Glu Asn Ala Asp Pro Met Lys Gln Lys Gln Leu Ala
 405 410 415
 Lys Gly Ile Asp Gln Leu Met Asp Glu Gly Val Ala Gln Leu Phe Val
 420 425 430
 Asn Gln Phe Asn Gly Arg Lys Ile Ile Gly Thr Val Gly Gln Leu Gln
 435 440 445
 Phe Glu Val Ile Gln Tyr Arg Leu Leu Asn Glu Tyr Asn Ala Ser Cys
 450 455 460
 Arg Trp Glu Pro Leu Ser Leu Tyr Lys Ala Cys Trp Ile Glu Ser Asp
 465 470 475 480
 Asp Leu Glu Glu Leu Glu Ala Phe Lys Lys Arg Lys Tyr Gln Tyr Met
 485 490 495
 Ala Lys Asp Arg Glu Gly Arg Asp Val Phe Leu Ala Asp Ser Asn Tyr
 500 505 510
 Val Leu Gln Met Ala Gln Met Asp Phe Lys Asn Ile Arg Phe His Phe
 515 520 525
 Thr Ser Glu Phe
 530

<210> 9204

<211> 257

<212> PRT

<213> B.fragilis

<400> 9204

Asp Lys Thr Asn Lys Lys Leu Met Lys Lys Phe Asn Leu Ile Thr Phe
 1 5 10 15
 Ala Val Ile Leu Met Leu Leu Pro Ile Leu Gln Ser Cys Leu Asp Asp
 20 25 30
 Ala Asn Asn Asp Glu Trp Val Thr Cys Pro Pro Gly Gly Ile Leu Ala
 35 40 45
 Ile Gly Thr Met Lys Ile Pro Asn Ala Asp Thr Pro Arg Asp Phe Phe
 50 55 60
 Ile Ala Leu Asp Asn Gly Asp Asn Val Leu Pro Ala Asp Thr Ala Asp
 65 70 75 80
 Ile Arg Asn Arg Lys Tyr Thr Val Ala Glu Gly Gln Arg Val Phe Val
 85 90 95
 Gly Tyr Leu Gln Met Gly Glu Glu Lys Pro Gly Tyr Glu Asn Gly Lys
 100 105 110
 Ile Phe Thr Ile Glu Asp Ile Leu Thr Lys Glu Ile Ile Pro Leu Thr
 115 120 125
 Glu Ala Thr Ala Asp Ser Ile Gly Asp Asp Arg Ile Asn Val Thr Ala
 130 135 140
 His Ala Leu Thr Lys Asp Tyr Leu Thr Ile Glu Tyr Gln Tyr Leu Gly
 145 150 155 160
 Ser Met Asn Glu Asn Lys Lys His Met Leu Asn Leu Val Gln Asn Glu
 165 170 175
 Ile Thr Gly Pro Ile Lys Asp Asp Gly Tyr Ile Tyr Leu Glu Phe Arg
 180 185 190

His Asn Ala Phe Asn Asp Ser Pro Asn Gln Leu Gly Ser Ser Leu Val
 195 200 205
 Ser Phe Lys Leu Asp Ser Ile Ala Glu Gln Leu Ala Thr Ala Lys Gly
 210 215 220
 Ile Lys Leu Arg Val Asn Thr Ile Tyr Asp Asn Ile Gln Tyr Val Thr
 225 230 235 240
 Ile Asp Ile Asn Glu Asp Lys Asn Leu Lys Ile Lys Ser Phe His Ser
 245 250 255
 Gln

<210> 9205

<211> 417

<212> PRT

<213> B.fragilis

<400> 9205

Asp Phe Ser Lys Leu Leu Asn Phe Lys Asp Met Asn Leu Val Glu Arg
 1 5 10 15
 Phe Leu Lys Tyr Val Ser Phe Asp Thr Gln Ser Asp Glu Leu Thr Arg
 20 25 30
 Leu Thr Pro Ser Thr Pro Gly Gln Met Val Phe Ala Glu Tyr Leu Lys
 35 40 45
 Ser Glu Leu Glu Ser Leu Gly Leu Glu Asp Ile Thr Leu Asp Glu Asn
 50 55 60
 Gly Tyr Leu Phe Ala Thr Leu Pro Ala Asn Thr Glu Lys Glu Leu Pro
 65 70 75 80
 Val Ile Gly Phe Ile Ala His Met Asp Thr Ser Pro Asp Met Ser Gly
 85 90 95
 Lys Asn Val Thr Pro Arg Ile Val Glu Lys Tyr Asp Gly Ser Asp Ile
 100 105 110
 Val Leu Cys Val Glu Glu Asn Ile Val Leu Ser Pro Ser Gln Phe Pro
 115 120 125
 Glu Leu Leu Asp His Lys Gly Glu Asp Leu Ile Val Thr Asn Gly Lys
 130 135 140
 Thr Leu Leu Gly Ala Asp Asp Lys Ala Gly Ile Ala Glu Ile Val Ser
 145 150 155 160
 Ala Val Val Tyr Leu Gln Glu His Pro Glu Ile Lys His Gly Lys Ile
 165 170 175
 Arg Ile Gly Phe Asn Pro Asp Glu Glu Ile Gly Glu Gly Ala His Lys
 180 185 190
 Phe Asp Val Gln Lys Phe Gly Cys Glu Trp Ala Tyr Thr Met Asp Gly
 195 200 205
 Gly Glu Val Gly Glu Leu Glu Phe Glu Asn Phe Asn Ala Ala Ala
 210 215 220
 Lys Ile Thr Phe Lys Gly Arg Asn Val His Pro Gly Tyr Ala Lys His
 225 230 235 240
 Lys Met Ile Asn Ser Ile Arg Ile Ala Asn Gln Phe Ile Thr Met Leu
 245 250 255
 Pro Arg His Glu Thr Pro Glu His Thr Ser Gly Tyr Glu Gly Phe Tyr
 260 265 270
 His Leu Ile Gly Ile Gln Gly Asp Val Glu Gln Ser Thr Val Ser Tyr
 275 280 285
 Ile Ile Arg Asp His Asp Arg Asn Lys Phe Glu Asp Arg Lys Lys Glu
 290 295 300
 Ile Glu His Leu Val Asn Lys Ile Asn Ala Glu Phe Gly Glu Gly Thr
 305 310 315 320
 Ala Thr Leu Glu Leu Arg Asp Gln Tyr Tyr Asn Met Arg Glu Lys Ile
 325 330 335

Glu Pro Val Met His Ile Ile Asp Thr Ala Phe Ala Ala Met Glu Ala
 340 345 350
 Val Gly Val Lys Pro Asn Val Lys Pro Ile Arg Gly Gly Thr Asp Gly
 355 360 365
 Ala Gln Leu Ser Phe Lys Gly Leu Pro Cys Pro Asn Ile Phe Ala Gly
 370 375 380
 Gly Leu Asn Phe His Gly Arg Tyr Glu Phe Val Pro Ile Gln Asn Met
 385 390 395 400
 Glu Lys Ala Met Lys Val Ile Val Lys Ile Ala Glu Leu Val Ala Ser
 405 410 415
 Lys

<210> 9206

<211> 339

<212> PRT

<213> B.fragilis

<400> 9206

Ile Lys Leu Asn Tyr Ser Val Ala Glu Leu Arg Ile Met Phe Lys Asn
 1 5 10 15
 Arg Ser Met Lys Lys Ser Arg Arg Lys Arg Leu Val Ile Leu Cys Ile
 20 25 30
 Ala Leu Val Cys Ile Ile Val Leu Val Phe Leu Leu Phe Ser Lys Ser
 35 40 45
 Thr Ser Asn Asn Ser Thr Asn Pro Pro Leu Thr Asp Val Leu Thr Asp
 50 55 60
 Ser Ile Ser Arg Ile Val Ser Ala Cys Pro Gly Glu Ile Gly Val Ala
 65 70 75 80
 Ile Ile Ile Asn Asn Thr Asp Thr Val Lys Val Asn Asp Lys Ser Val
 85 90 95
 Tyr Pro Met Met Ser Val Phe Lys Val His Gln Ala Leu Ala Leu Cys
 100 105 110
 Asn Asp Phe Asp Asn Lys Gly Ile Ser Leu Asp Thr Leu Val Lys Ile
 115 120 125
 Asp Arg Asn Arg Leu Asp Ser Lys Thr Trp Ser Pro Met Met Lys Asp
 130 135 140
 Tyr Ser Glu Leu Val Ile Ser Leu Thr Val Arg Asp Leu Leu Arg Tyr
 145 150 155 160
 Thr Ile Ala Gln Ser Asp Asn Asn Ala Ser Asn Leu Met Phe Lys Asp
 165 170 175
 Met Val Asn Val Ala Gln Thr Asp Ser Phe Ile Ala Thr Leu Ile Pro
 180 185 190
 Arg Ser Ser Phe Gln Ile Ala Tyr Thr Glu Glu Glu Met Ser Ala Asp
 195 200 205
 His Asp Arg Ala Tyr Phe Asn Tyr Thr Ser Pro Leu Gly Ala Ala Met
 210 215 220
 Leu Met Asn Arg Leu Phe Thr Glu Ser Ile Val Ser Gly Glu Lys Gln
 225 230 235 240
 Ser Phe Ile Lys Asn Thr Leu Lys Glu Cys Val Thr Gly Thr Asp Arg
 245 250 255
 Ile Val Ala Pro Leu Leu Asp Lys Glu Arg Val Ser Ile Ala His Lys
 260 265 270
 Thr Gly Ser Gly Tyr Val Asn Glu Asn Gly Ile Leu Ala Ala His Asn
 275 280 285
 Asp Val Ala Tyr Ile Cys Leu Pro Asn Asn Val Cys Tyr Thr Leu Ala
 290 295 300
 Ile Phe Val Lys Asp Phe Lys Gly Asn Glu Ser Gln Ala Ser Gln Tyr
 305 310 315 320

Val Ala His Ile Ser Glu Val Val Tyr Ser Leu Leu Ile Gln Asn Ser
 325 330 335
 Ala Ile Pro

<210> 9207
<211> 186
<212> PRT
<213> B.*fragilis*

<400> 9207

Lys	Ile	Gln	Lys	Glu	Pro	Phe	Ser	Leu	Phe	Ile	Pro	Lys	Ser	Phe	Pro
1				5					10					15	
Phe	Leu	Ser	Arg	Tyr	Leu	Gln	Cys	Glu	Ile	Val	Pro	Lys	Leu	Ile	Ile
				20				25					30		
Asp	Thr	Lys	Lys	Ile	Thr	Ile	Met	Lys	Lys	Ile	Leu	Ser	Ile	Leu	Val
				35			40					45			
Leu	Ala	Ile	Ala	Ala	Val	Gln	Phe	Ala	Phe	Ala	Gly	Asp	Ile	Ile	Thr
				50			55				60				
Lys	Asp	Ala	Met	Lys	Leu	Pro	Leu	Pro	Ala	Arg	Asn	Phe	Ile	Asn	Arg
				65			70			75			80		
His	Phe	Ser	Asn	Pro	Gln	Ile	Ser	His	Ile	Lys	Ile	Glu	Asn	Glu	Ile
				85					90				95		
Leu	Gln	Thr	Lys	Lys	Tyr	Asp	Val	Leu	Leu	Thr	Asn	Ala	Thr	Glu	Ile
				100				105					110		
Asp	Phe	Asp	Asn	Arg	Gly	Asn	Trp	Ile	Glu	Val	Asp	Cys	Lys	Lys	Ala
				115			120					125			
Ala	Val	Pro	Ala	Thr	Ile	Val	Pro	Asp	Phe	Val	Lys	Glu	Tyr	Met	Lys
				130			135				140				
Ala	Asn	Gly	Tyr	His	Ser	Glu	Phe	Val	Thr	Gln	Ile	Glu	Arg	Asp	Arg
				145			150			155			160		
Lys	Gly	Tyr	Glu	Val	Glu	Leu	Asn	Thr	Asp	Leu	Ser	Leu	Lys	Phe	Thr
				165				170					175		
Lys	Asp	Gly	Lys	Phe	Arg	Lys	Ala	Glu	His						
				180				185							

<210> 9208

<211> 164

<212> PRT

<213> B.*fragilis*

<400> 9208

Leu	Lys	Lys	Asn	Asn	Ile	Ile	Met	Lys	Thr	Leu	Asn	Tyr	Thr	His	Leu
1					5				10						15
Glu	Glu	Lys	Gly	Ala	Asn	Thr	Ile	Val	Leu	Ser	Leu	Gln	Gln	Leu	Leu
						20			25						30
Ala	Asp	Phe	Gln	Ile	His	Tyr	Ala	Asn	Leu	Arg	Gly	Phe	His	Trp	Asn
						35		40							45
Ile	Lys	Gly	His	Gly	Phe	Phe	Val	Leu	His	Ser	Lys	Phe	Glu	Asp	Leu
						50		55			60				
Tyr	Asn	Gly	Ala	Ala	Glu	Lys	Val	Asp	Glu	Ile	Ala	Glu	Arg	Ile	Leu
						65		70			75				80
Met	Leu	Gly	Gly	Thr	Pro	Ala	Asn	Lys	Tyr	Ser	Asp	Tyr	Leu	Lys	Met
						85			90						95
Ala	Gln	Ile	Lys	Glu	Val	Asp	Gly	Val	Asn	Lys	Ala	Asp	Asp	Ala	Leu
						100			105						110
Asn	His	Ile	Leu	Glu	Thr	Tyr	Gly	His	Leu	Ile	Ala	Glu	Glu	Arg	Lys
						115			120						125
Ile	Leu	Ser	Leu	Ala	Ser	Ser	His	Asn	Asp	Glu	Val	Thr	Val	Ala	Met

130	135	140
Met Ser Asp Tyr Leu Lys Glu Gln Glu Lys Met Val Trp Met Leu Thr		
145	150	155
Ala Tyr Asn Gly		160

<210> 9209

<211> 769

<212> PRT

<213> B.fragilis

<400> 9209

Leu Thr Glu Asn Thr Asn Phe Ala Phe Asp Leu Asn Ser Ile Arg Met			
1	5	10	15
Ser Gln Leu Pro Thr Leu Ile Ala Asp Leu Ala Leu Ile Leu Ile Cys			
20	25	30	
Ala Gly Ile Met Thr Leu Leu Phe Lys Lys Leu Lys Gln Pro Leu Val			
35	40	45	
Leu Gly Tyr Val Val Ala Gly Phe Leu Ala Ser Pro His Met Pro Tyr			
50	55	60	
Thr Pro Ser Val Met Asp Val Ala Asn Ile Lys Thr Trp Ala Asp Ile			
65	70	75	80
Gly Val Ile Phe Leu Leu Phe Ala Leu Gly Leu Glu Phe Ser Phe Lys			
85	90	95	
Lys Ile Val Lys Val Gly Gly Thr Ala Val Ile Ala Ala Cys Thr Ile			
100	105	110	
Ile Phe Cys Met Ile Leu Leu Gly Ile Ala Val Gly Met Gly Phe Gly			
115	120	125	
Trp Gln Arg Met Asp Ser Leu Phe Leu Gly Gly Met Ile Ala Met Ser			
130	135	140	
Ser Thr Thr Ile Ile Tyr Lys Ala Phe Asp Asp Leu Gly Leu Arg Lys			
145	150	155	160
Lys Gln Phe Thr Gly Leu Val Leu Ser Ile Leu Ile Leu Glu Asp Ile			
165	170	175	
Leu Ala Ile Val Leu Met Val Met Leu Ser Thr Met Ala Val Ser Asn			
180	185	190	
Asn Phe Glu Gly Thr Glu Met Leu Gly Ser Ile Gly Lys Leu Leu Phe			
195	200	205	
Phe Leu Ile Leu Trp Phe Val Val Gly Ile Tyr Ala Ile Pro Glu Phe			
210	215	220	
Leu Lys Arg Cys Arg Lys Leu Met Ser Glu Glu Thr Leu Leu Ile Val			
225	230	235	240
Ser Leu Ala Leu Cys Phe Gly Met Val Ala Ile Ala Ala Asn Thr Gly			
245	250	255	
Phe Ser Ala Ala Phe Gly Ala Phe Ile Met Gly Ser Ile Leu Ala Glu			
260	265	270	
Thr Ile Glu Ala Glu Ser Ile Asp Arg Leu Val Lys Pro Val Lys Asp			
275	280	285	
Leu Phe Gly Ala Ile Phe Phe Val Ser Val Gly Met Met Val Asp Pro			
290	295	300	
Ala Met Ile Ile Glu Tyr Ala Val Pro Ile Ile Val Ile Thr Leu Ala			
305	310	315	320
Val Ile Leu Gly Gln Ala Phe Phe Gly Thr Met Gly Val Met Leu Ala			
325	330	335	
Gly Gln Pro Leu Lys Thr Ala Met Gln Cys Gly Phe Ser Leu Thr Gln			
340	345	350	
Ile Gly Glu Phe Ala Phe Ile Ile Ala Ser Leu Gly Leu Ser Leu His			
355	360	365	
Val Thr Ser Asp Phe Leu Tyr Pro Ile Val Val Ala Val Ser Val Ile			

370	375	380
Thr Thr Phe Leu Thr Pro Tyr Met Ile Arg Val Ala Glu Pro Ala Ser		
385	390	395
Asn Phe Val Asp Arg Lys Leu Pro Glu Ser Trp Arg Arg Phe Leu Met		400
405	410	415
Arg Tyr Thr Thr Gly Thr Arg Thr Val Asn His Glu Ser Leu Trp Arg		
420	425	430
Lys Leu Leu Phe Ala Leu Ala Arg Ile Leu Val Val Tyr Ser Ile Val		
435	440	445
Ser Ile Ser Val Ile Thr Leu Ser Phe Arg Phe Val Val Pro Leu Leu		
450	455	460
Arg Glu His Leu Pro Gly Ile Trp Gly Pro Leu Ala Gly Ala Val Phe		
465	470	475
Thr Ile Leu Cys Ile Ser Pro Phe Leu Arg Ala Ile Met Val Lys Lys		480
485	490	495
Asn His Ser Val Glu Phe Ile Thr Leu Trp Asn Asp Asn Arg Val Asn		
500	505	510
Arg Gly Pro Leu Val Ser Thr Val Val Phe Arg Val Ala Val Ser Val		
515	520	525
Leu Phe Val Met Phe Val Ile Thr Arg Leu Phe Lys Ala Ser Val Gly		
530	535	540
Leu Met Phe Gly Val Ala Leu Leu Leu Val Ile Leu Met Ile Leu Ser		
545	550	555
Arg Gln Leu Lys Lys Gln Ser Ile Leu Ile Glu Arg Lys Phe Phe Gln		
565	570	575
Asn Leu Arg Ser Arg Asp Met Arg Ala Glu Tyr Leu Gly Glu Lys Lys		
580	585	590
Pro Ala Tyr Ala Gly Arg Leu Leu Ser Arg Asp Leu His Leu Thr Asp		
595	600	605
Phe Glu Ile Pro Gly Glu Ser Ala Trp Ala Gly Lys Thr Leu Leu Glu		
610	615	620
Leu Asn Leu Gly Lys Lys Tyr Gly Val His Val Val Ser Ile Leu Arg		
625	630	635
Gly Lys Arg Arg Ile Asn Ile Pro Gly Gly Ser Ile Arg Leu Phe Pro		640
645	650	655
Met Asp Lys Ile Gln Val Ile Gly Thr Asp Asp Gln Leu Asn Thr Phe		
660	665	670
Ala Glu Glu Met Ser His Val Ala Val Ile Asp Ser Gly Val Phe Glu		
675	680	685
Lys Ser Glu Met Thr Leu Lys Gln Leu Leu Ile Asp Thr Asp Ser Ala		
690	695	700
Phe Leu Gly Lys Thr Leu Arg Glu Ser Gly Ile Arg Asp Lys Tyr His		
705	710	715
Cys Leu Ile Ala Gly Val Glu Arg Gly Gly Glu Ala Leu Met Thr Pro		720
725	730	735
Asp Val Asn Val Pro Phe Glu Glu Gly Asp Val Val Trp Val Val Gly		
740	745	750
Glu Asn Glu Asp Val Tyr Arg Leu Ile Gly Gln Asn Cys Asp Arg Lys		
755	760	765
Arg		

<210> 9210

<211> 301

<212> PRT

<213> B.fragilis

<400> 9210

Asn Thr Met Lys Lys Leu Phe Val Leu Val Cys Leu Leu Ala Ile Gly

04 05 06 07 08
 09 10 11 12 13
 14 15 16 17 18
 19 20 21 22 23
 24 25 26 27 28
 29 30 31 32 33
 34 35 36 37 38
 39 40 41 42 43
 44 45 46 47 48
 49 50 51 52 53
 54 55 56 57 58
 59 60 61 62 63
 64 65 66 67 68
 69 70 71 72 73
 74 75 76 77 78
 79 80 81 82 83
 84 85 86 87 88
 89 90 91 92 93
 94 95 96 97 98
 99 100 101 102 103

1	5	10	15												
Phe	Cys	Asn	Val	Ala	Trp	Ala	Ala	Lys	Arg	Gln	Ala	Lys	His	Val	Val
20	25	30													
Leu	Ile	Ala	Leu	Asp	Gly	Trp	Gly	Ala	Tyr	Ser	Val	Pro	Lys	Ala	Asp
35	40	45													
Ile	Pro	Asn	Ile	Lys	Ser	Leu	Met	Asp	Glu	Gly	Cys	Tyr	Thr	Leu	His
50	55	60													
Lys	Arg	Ser	Val	Phe	Pro	Ser	Ser	Ser	Ala	Ile	Asn	Trp	Ala	Ser	Met
65	70	75	80												
Phe	Met	Gly	Val	Gly	Thr	Glu	Leu	His	Gly	Tyr	Thr	Glu	Trp	Gly	Ser
85	90	95													
Arg	Thr	Pro	Glu	Ile	Pro	Ser	Arg	Val	Val	Asn	Glu	His	Gly	Ile	Ser
100	105	110													
Pro	Thr	Ile	Phe	Ser	Val	Met	Arg	Gln	Gln	Tyr	Pro	Glu	Ala	Glu	Thr
115	120	125													
Gly	Cys	Leu	Tyr	Glu	Trp	Glu	Gly	Ile	Lys	Tyr	Leu	Val	Asp	Thr	Leu
130	135	140													
Ala	Leu	Ser	Tyr	His	Ala	Gln	Ala	Ser	Asp	Tyr	Asp	Lys	Tyr	Pro	Thr
145	150	155	160												
Ala	Leu	Cys	Glu	Met	Ala	Glu	Lys	Tyr	Ile	Lys	Asp	Lys	Lys	Pro	Ala
165	170	175													
Met	Leu	Ala	Val	Cys	Phe	Asp	Gln	Leu	Asp	His	Thr	Gly	His	Ala	Val
180	185	190													
Gly	His	Asp	Thr	Pro	Gly	Tyr	Tyr	Glu	Lys	Leu	Lys	Glu	Leu	Asp	Gly
195	200	205													
Tyr	Val	Gly	Arg	Ile	Ile	Ala	Ala	Ile	Lys	Glu	Ala	Gly	Ile	Tyr	Asp
210	215	220													
Asp	Thr	Ile	Ile	Met	Met	Thr	Ala	Asp	His	Gly	Gly	Ile	Lys	Lys	Gly
225	230	235	240												
His	Gly	Gly	Ile	Thr	Leu	Gln	Glu	Val	Glu	Ile	Pro	Phe	Ile	Ile	Ala
245	250	255													
Gly	Lys	Asn	Val	Arg	Lys	Gly	Gly	Glu	Phe	Gln	Glu	Ser	Met	Met	Gln
260	265	270													
Phe	Asp	Thr	Ala	Ala	Thr	Met	Gly	Tyr	Val	Phe	Gly	Val	Lys	Gln	Pro
275	280	285													
Gln	Val	Trp	Ile	Gly	Arg	Pro	Met	Ile	Gln	Val	Phe	Lys			
290	295	300													

<210> 9211

<211> 395

<212> PRT

<213> B.fragilis

<400> 9211

Ser	Asn	Gln	Asn	Asn	Glu	Ser	Cys	Cys	Lys	Met	Thr	Leu	Lys	Asn	Leu
1	5	10	15												
Ile	Met	Lys	Arg	Ile	Thr	Ile	Lys	Gln	Tyr	Leu	Leu	Ala	Cys	Phe	Val
20	25	30													
Leu	Pro	Met	Ile	Leu	Ala	Gly	Cys	Asn	Asp	Ala	Asp	Tyr	Gln	Val	Ile
35	40	45													
Asp	Asn	Ala	Ile	Tyr	Leu	Asn	Glu	Ala	Ser	Glu	Asn	Gly	Ser	Ala	Lys
50	55	60													
Val	Thr	Val	Asp	Pro	Glu	Asn	Val	Thr	Thr	Thr	Leu	Thr	Val	Arg	
65	70	75	80												
Val	Gly	Gln	Pro	Val	Thr	Glu	Asn	Val	Thr	Ala	Val	Leu	Thr	Val	Asp
85	90	95													
Pro	Ser	Ile	Leu	Lys	Glu	Tyr	Asn	Glu	Ala	Asn	Glu	Thr	Ser	Tyr	Glu
100	105	110													
Val	Leu	Pro	Glu	Gln	Tyr	Phe	Thr	Tyr	Asp	Lys	Glu	Ile	Lys	Ile	Ala

115	120	125
Ala	Gly Asp Val Ser Ala Ile Pro Ser Glu Phe Arg Val Lys Pro Tyr	
130	135	140
Ser	Asn Glu Asn Gly Glu Leu Tyr Ala Ile Pro Val Ser Leu Thr Glu	
145	150	155
Ile	Gln Gly Pro Val Ser Thr Ile Gly Leu Ser Ser Lys Phe Ile Ile	160
165	170	175
Leu	Leu Asp Lys Pro Leu Ile Gln Ser Val Pro Phe Met Asn Thr Thr	
180	185	190
Asn	Ala Val Lys Pro Ala Lys Asp Glu Leu Trp Gly Val Thr Thr Asn	
195	200	205
Glu	Trp Ser Leu Glu Ala Trp Val Gln Met Asp Gly Phe Asp Ile Asn	
210	215	220
Asn	Gln Ala Ile Phe Asn Ser Gly Ser Ser Asp His Glu Val Tyr Ile	
225	230	235
Arg	Phe Gly Asp Ala Met Ile Pro Tyr Asn Ser Leu Gln Val Lys Thr	240
245	250	255
Leu	Gly Ser Gln Val Asn Thr Val Thr Leu Phe Glu Lys Asn Lys Trp	
260	265	270
Tyr	His Leu Ala Phe Val Tyr Asn Ser Ser Gly Leu Leu Ser Ile Tyr	
275	280	285
Ile	Asn Gly Val Leu Asp Val Thr Leu Gln Thr Lys Gly Gly Pro Val	
290	295	300
Arg	Phe Asp Lys Met Asn Met Val Ser Ser Gly Ser Tyr Phe Arg Asn	
305	310	315
Asn	Cys Gln Met Ala Gln Val Arg Leu Trp Lys Ser Ala Ile Ser Gln	320
325	330	335
Thr	Gln Ile Gln Ser Asn Met Tyr Phe Ala Val Lys Pro Ala Asp Pro	
340	345	350
Asn	Leu Ile Gly Tyr Trp Lys Met Asp Glu Gly Lys Gly Asn Ala Phe	
355	360	365
Val	Asp Cys Thr Gly His Gly Tyr Asp Leu Val Ala Gly Gly Thr Leu	
370	375	380
Val	Trp Lys Glu His Val Arg Phe Asp Lys Gln	
385	390	395

<210> 9212

<211> 246

<212> PRT

<213> B.fragilis

<400> 9212

Arg	Glu Lys Lys Met Lys Lys Arg Tyr Leu Asn Ile Val Val Phe Ala	
1	5	10
Leu	Phe Val Ser Met Leu Trp Gly Cys Ser Asp Trp Thr Lys Pro Glu	15
20	25	30
Ala	Glu Asp Phe Phe Glu Met Pro Gly Asn Asp Tyr Tyr Glu Asn Leu	
35	40	45
Arg	Ala Tyr Lys Arg Ser Glu His Ser Val Ala Phe Gly Trp Phe Gly	
50	55	60
Gly	Trp Thr Gly Val Gly Ala Ser Met Val Gly Ser Leu Met Gly Leu	
65	70	75
80		
Pro	Asp Ser Val Asp Phe Val Ser Ile Trp Gly Asn Trp Lys Asn Leu	
85	90	95
Asp	Glu Ala Arg Met Leu Asp Lys Lys Val Lys Glu Gln Lys Gly	
100	105	110
Thr	Arg Ala Leu Met Cys Phe Ile Val Ala Asn Val Gly Asp Gln Leu	
115	120	125
Thr	Pro Glu Glu His Lys Glu Asn Tyr Lys Glu Tyr Trp Gly Trp Lys	

130	135	140
Asp Gly Asp Gln Glu Ala Ile Asp Gly Ala Ile Arg Lys Tyr Ala Asn		
145	150	155
Ala Ile Cys Asp Ser Ile Asp Lys Tyr Gly Tyr Asp Gly Phe Asp Ile		160
165	170	175
Asp Tyr Glu Pro Asn Tyr Gly Ser Pro Gly Asn Leu Ala Ser Tyr Pro		
180	185	190
Glu Asn Met Leu Thr Phe Val Lys Ala Leu Gly Glu Arg Ile Gly Pro		
195	200	205
Lys Ser Gly Thr Gly Arg Leu Leu Val Ile Asp Gly Glu Pro Gln Ser		
210	215	220
Ile His Pro Glu Thr Gly Pro Tyr Phe Asp Tyr Phe Ile Val Gln Ala		
225	230	235
Tyr Ser Asn Pro Cys Gly		240
	245	

<210> 9213

<211> 357

<212> PRT

<213> B.fragilis

<400> 9213

Lys Lys Lys Asn Met Lys Asn Asn Leu Leu Ser Glu Arg Leu Val Tyr		
1	5	10
Asn Gly Glu Ser Gln Thr Pro Thr His Leu His Leu Cys Thr Tyr Asn		15
20	25	30
Ala Leu Val Met Gln Glu Val Ser Gly Val Asn Phe Gln Thr Val Ala		
35	40	45
Asn Ser Leu Asn Arg Glu Gln Ile Asn Trp Leu Gln Val His Gly Leu		
50	55	60
Gln Asn Thr Glu Val Ile Arg Glu Ile Cys Ser His Phe Glu Ile Asp		
65	70	75
Phe Leu Ile Leu Gln Asp Ile Leu Asn Ala Glu His Pro Thr Lys Ile		80
85	90	95
Glu Glu His Asp Lys Tyr Thr Val Leu Ile Met Lys Leu Phe Arg Phe		
100	105	110
Asn Asn Lys Glu Glu Lys Ser Pro Glu Asp Glu Leu Asp Glu Leu Glu		
115	120	125
Gln Gln Gln Val Cys Ile Ile Gln Gly Ser Asn Phe Val Leu Thr Phe		
130	135	140
Leu Glu Asn Glu Thr Asp Phe Phe Asp Asp Val Thr Ser Ala Leu His		
145	150	155
Asn Asp Val Leu Lys Ile Arg Gly Arg Gln Ser Asp Tyr Leu Leu Ser		160
165	170	175
Val Leu Leu Asn Ser Ile Met Gly Asn Tyr Ile Ala Thr Val Ser Thr		
180	185	190
Ile Asp Asp Ser Leu Glu Asp Leu Glu Glu Leu Leu Thr Ile Ser		
195	200	205
Asp Gly Asn Asp Ile Gly Ile Gln Ile Gln Ala Leu Arg Arg Gln Tyr		
210	215	220
Met Leu Met Lys Lys Ala Ile Leu Pro Leu Lys Glu Gln Tyr Val Lys		
225	230	235
Leu Leu Arg Ala Glu Asn Ser Leu Met His Lys Val Asn Arg Ala Phe		240
245	250	255
Phe Asn Asp Val Asn Asp His Leu Gln Phe Val Leu Gln Thr Ile Glu		
260	265	270
Ile Cys Arg Glu Thr Leu Ser Ser Leu Val Asp Leu Tyr Ile Ser Asn		
275	280	285
Asn Asp Leu Arg Met Asn Asp Ile Met Lys Arg Leu Thr Ile Val Ser		

290	295	300
Thr Ile Phe Ile Pro Leu	Thr Phe Leu Val Gly Val Trp Gly Met Asn	
305	310	315
Phe Lys Ile Met Pro Glu Leu Asp Trp Arg Tyr Gly Tyr Val Tyr Ala		320
325	330	335
Trp Ile Leu Met Leu Leu Val Gly Gly Ala Val Tyr Trp Phe Phe Arg		
340	345	350
Lys Lys Lys Trp Tyr		
355		

<210> 9214

<211> 190

<212> PRT

<213> B.fragilis

<400> 9214

Ser Met Glu Asn Gly Ile Lys Ile Leu Arg Asp Lys Tyr Gly Leu		
1	5	10
Phe Glu Lys Asp Ile Glu Ile Leu Leu Glu Lys Phe Thr Lys Phe Ser		15
20	25	30
Val Pro Lys Arg Glu Ile Ile Leu Gln Glu Gly Gln Thr Asp His Tyr		
35	40	45
Ile Tyr Phe Val Glu Lys Gly Ile Val Lys Ser Thr Ile Leu Arg Glu		
50	55	60
Gly Arg Glu Phe Ile Ile Phe Phe Ala Leu Glu Asn Asp Val Pro Leu		
65	70	75
Ser Ser Pro Asn Leu Thr Glu Ser Arg Gln Ser Leu Tyr Thr Leu Glu		80
85	90	95
Ala Val Asp Thr Cys Ile Leu Trp Arg Ile Ser Arg Lys Asp Leu Ala		
100	105	110
Thr Ser Phe Lys Asp Ser Leu Asn Leu Ser Asn Trp Gly Arg Met Ile		
115	120	125
Leu Gln Glu Trp Leu Thr Ser Ser Ala Phe Tyr Phe Ser Ser Ile His		
130	135	140
Trp Met Ser Lys Lys Glu Gln Tyr Gln Tyr Leu Leu Lys Glu Met Pro		
145	150	155
Lys Leu Ile Gln Arg Leu Ser Met Arg Asp Leu Ser Ala Trp Leu Asp		160
165	170	175
Ile Thr Pro Gln Ser Leu Ser Arg Ile Arg Ala Asp Met His		
180	185	190

<210> 9215

<211> 66

<212> PRT

<213> B.fragilis

<400> 9215

Val Arg Trp Asn Pro Arg Thr Arg Leu Leu Glu Ile Phe Glu Ser Thr		
1	5	10
Asp His Ser Ile His Ala Arg Gly Ser Thr Ser Leu Asp His Ser Phe		15
20	25	30
Leu Tyr Tyr Pro His Tyr Leu Val Ser Tyr Thr Arg Ile Leu Phe Pro		
35	40	45
Thr Ala Phe Asn Leu Gly Cys Ser Arg Gly Val His Pro Leu Ser Val		
50	55	60
Pro Cys		
65		

<210> 9216

<211> 374
<212> PRT
<213> B.fragilis

<400> 9216

Thr	Gly	Trp	Lys	Glu	Asn	Arg	Arg	Thr	Lys	Ile	Thr	Gly	Gly	Val	Leu
1				5					10					15	
Met	Asp	Tyr	Met	Lys	Asp	Ile	Lys	Glu	Ile	Ser	Ala	Glu	Glu	Ala	Val
						20			25				30		
Ile	Leu	Trp	Gln	Ala	Ser	Arg	Leu	Ser	Leu	Ser	Lys	Ile	Tyr	Glu	Lys
			35					40				45			
Ala	Pro	Glu	Ile	Leu	Lys	Val	Gln	Gly	Ser	Val	Ile	Gly	Thr	Leu	Gly
			50				55				60				
Asn	Phe	Ser	Ala	Ser	Ile	Gly	Lys	Ala	Lys	Ser	Lys	Lys	Thr	Phe	Asn
	65				70				75				80		
Val	Ser	Ala	Ile	Val	Ala	Ala	Ala	Leu	Lys	Asn	Gly	Thr	Val	Leu	Arg
				85					90				95		
Tyr	Val	Ala	Glu	Leu	Pro	Glu	Glu	Lys	Arg	Lys	Ile	Leu	Tyr	Val	Asp
			100				105				110				
Thr	Glu	Gln	Ser	Pro	Tyr	His	Cys	Leu	Lys	Val	Met	Lys	Arg	Ile	Leu
			115				120				125				
Arg	Met	Ala	Gly	Leu	Pro	Asp	Asp	Arg	Asp	Asn	Glu	His	Leu	Glu	Phe
			130			135				140					
Leu	Ala	Leu	Arg	Lys	Tyr	Thr	Pro	Glu	Gln	Arg	Ile	Arg	Ile	Val	Glu
	145				150				155				160		
Gln	Ala	Ile	Tyr	Asn	Thr	Pro	Asp	Ile	Gly	Leu	Val	Ile	Ile	Asp	Gly
			165				170				175				
Ile	Arg	Asp	Met	Val	Tyr	Asp	Ile	Asn	Ser	Pro	Gly	Glu	Ser	Thr	Arg
			180				185				190				
Ile	Ile	Ser	Lys	Leu	Met	Gln	Trp	Thr	Asp	Asp	Arg	Gln	Ile	His	Ile
			195				200				205				
His	Thr	Ile	Leu	His	Gln	Asn	Lys	Gly	Asp	Glu	Asn	Ala	Arg	Gly	His
			210			215				220					
Ile	Gly	.Thr	Glu	Leu	Asn	Asn	Lys	Ala	Glu	Thr	Val	Leu	Leu	Val	Glu
	225				230				235			240			
Lys	Asp	Lys	Ser	Asn	Gly	Asp	Ile	Ser	Asn	Val	Ser	Ala	Met	His	Ile
			245				250				255				
Arg	Ala	Met	Asp	Phe	Glu	Pro	Phe	Ser	Phe	Arg	Ile	Asn	Asp	Asn	Ala
			260				265				270				
Ile	Pro	Glu	Leu	Leu	Glu	Gly	Tyr	Lys	Pro	Glu	Thr	Lys	Pro	Gly	
			275			280				285					
Arg	Pro	Glu	Glu	Glu	Lys	Phe	Asp	Pro	Tyr	Arg	His	Ile	Thr	Glu	Gln
	290				295				300						
Gln	His	Arg	Ile	Ala	Leu	Glu	Ala	Val	Phe	Gly	Leu	Lys	Glu	Glu	Tyr
	305				310				315				320		
Gly	Tyr	Lys	Glu	Leu	Glu	Asp	Thr	Leu	Ile	Lys	Thr	Tyr	Val	Ser	Val
			325				330				335				
Gly	Val	Lys	Leu	Asn	His	Lys	Ala	Val	Ser	Leu	Ile	Thr	Met	Leu	
			340			345				350					
Arg	Asn	Lys	Arg	Met	Ile	Val	Gln	Glu	Asn	Gly	Arg	Lys	Tyr	Thr	Phe
			355			360				365					
Met	Pro	Asp	Phe	His	Tyr										
	370														

<210> 9217
<211> 423
<212> PRT
<213> B.fragilis

<400> 9217

Ile Phe Tyr Leu Cys Asn Leu Asn Lys Lys Leu Glu Val Met Lys Tyr
 1 5 10 15
 Lys Leu Leu Val Leu Asp Val Asp Gly Thr Leu Leu Asn Asp Glu Lys
 20 25 30
 Glu Ile Thr Pro Arg Thr Leu Ala Thr Leu Leu Lys Val Gln Gln Met
 35 40 45
 Gly Val His Ile Val Leu Ala Ser Gly Arg Pro Thr Tyr Gly Ile Leu
 50 55 60
 Pro Leu Ala Lys Lys Leu Glu Leu Gly Asn Tyr Gly Gly Tyr Ile Leu
 65 70 75 80
 Ser Tyr Asn Gly Ala Gln Val Ile Asn Ala Lys Asn Gly Glu Val Leu
 85 90 95
 Leu Glu Arg Arg Ile Asn Pro Glu Met Leu Pro Tyr Leu Glu Lys Lys
 100 105 110
 Ala Arg Lys Asn Gly Phe Ala Ile Phe Thr Tyr Thr Glu Asp Arg Met
 115 120 125
 Ile Ala Asp Gln Ala Asp Asn Glu His Ile Leu Gln Glu Ala Phe Leu
 130 135 140
 Asn Arg Met Glu Leu Ile Glu Glu Pro Glu Phe Ser Val Ala Val Asp
 145 150 155 160
 Phe Ala Pro Ser Lys Cys Met Leu Val Ser Asp Asp Glu Glu Ala Leu
 165 170 175
 Ile Gly Leu Glu Glu His Trp Lys Lys Arg Leu Asn Gly Ala Leu Asp
 180 185 190
 Val Phe Arg Ser Glu Pro Tyr Phe Leu Glu Val Leu Pro Cys Gly Ile
 195 200 205
 Asp Lys Ser Thr Ser Leu Gly Ala Leu Leu Ser His Leu Asp Ile Thr
 210 215 220
 Pro Glu Glu Ile Ile Val Ile Gly Asp Gly Val Cys Asp Val Ser Met
 225 230 235 240
 Ile Gln Phe Ala Gly Leu Gly Ile Ala Met Gly Asn Ala Gln Asp Ser
 245 250 255
 Val Lys Val Cys Ala Asp Val Val Thr Ala Ser Asn Glu Asp Gly
 260 265 270
 Val Ala Leu Ala Val Glu Lys Ala Ile Leu Ser Glu Ile Arg Pro Ala
 275 280 285
 Glu Ile Pro Leu Asp Gln Leu Asn Glu Arg Ala Arg His Ala Leu Met
 290 295 300
 Gly Asn Leu Gly Ile Gln Tyr Thr Tyr Ala Ser Glu Asp Arg Val Glu
 305 310 315 320
 Ala Thr Met Pro Val Asp Glu Arg Thr Arg Gln Pro Phe Gly Ile Leu
 325 330 335
 His Gly Gly Ala Thr Leu Ala Leu Ala Glu Thr Val Ala Gly Leu Gly
 340 345 350
 Ser Met Ile Leu Cys Gln Pro Asp Glu Ile Val Val Gly Met Gln Val
 355 360 365
 Ser Gly Asn His Met Ser Ser Ala His Glu Gly Asp Thr Val Arg Ala
 370 375 380
 Val Gly Thr Ile Ile His Lys Gly Arg Ser Ser His Val Trp Asn Val
 385 390 395 400
 Asp Val Phe Thr Ser Thr Asp Lys Leu Val Ser Ser Ile Arg Val Val
 405 410 415
 Asn Ser Ile Leu Lys Lys Arg
 420

<210> 9218

<211> 346

<212> PRT

<213> B.fragilis

<400> 9218

Tyr Lys Phe Asp Lys Met Lys Lys Ile Ile Phe Met Thr Leu Phe Leu
 1 5 10 15
 Leu Val Ala Met Thr Gly Gln Ser Lys Gly Lys Gly Glu Phe Thr Val
 20 25 30
 Leu Gln Trp Asn Val Trp Gln Glu Gly Thr Met Val Pro Gly Gly Tyr
 35 40 45
 Asp Ala Ile Val Asn Glu Ile Val Arg Leu Gln Pro Asp Phe Val Thr
 50 55 60
 Phe Ser Glu Val Arg Asn Tyr His Asn Thr Arg Phe Asn Glu Arg Ile
 65 70 75 80
 Val Ala Ser Leu Lys Glu Lys Gly Leu Asp Tyr Tyr Ser Phe Tyr Thr
 85 90 95
 Tyr Asp Thr Gly Leu Leu Ser Lys His Pro Ile Thr Asp Ser Leu Thr
 100 105 110
 Val Phe Pro Glu Asn Gly Asp His Gly Ser Ile Tyr Arg Leu Thr Ser
 115 120 125
 Ser Val Asn Gly His Lys Val Ala Val Tyr Thr Ser His Leu Asp Tyr
 130 135 140
 Leu Asp Cys Ala Tyr Tyr Asn Val Arg Gly Tyr Asp Gly Ser Ser Trp
 145 150 155 160
 Lys Glu Ile Pro Ile Pro Thr Thr Val Glu Glu Val Leu Lys Val Asn
 165 170 175
 Val Ala Ser Gln Arg Asp Asp Ala Ile Lys Met Phe Ile Ala Gln Ala
 180 185 190
 Gln Lys Asp Ile Ala Asn Gly Tyr Ser Val Ile Ile Gly Gly Asp Phe
 195 200 205
 Asn Glu Pro Ser His Leu Asp Trp Ile Glu Ala Asn Lys Asn Leu Tyr
 210 215 220
 Asp His Asn Gly Leu Val Ile Pro Trp Thr Val Thr Thr Leu Leu Glu
 225 230 235 240
 Gln Asn Gly Phe Val Asp Thr Tyr Arg His Ile Tyr Pro Asn Pro Leu
 245 250 255
 Thr His Pro Gly Phe Thr Tyr Pro Ala Asp Asn Pro Leu Lys Glu Pro
 260 265 270
 Gly Lys Leu Thr Trp Ala Pro Lys Ala Asp Glu Arg Asp Arg Ile Asp
 275 280 285
 Phe Ile Phe Tyr Lys Gly Lys Asn Leu Glu Ala Lys Lys Ala Ile Val
 290 295 300
 Phe Gly Pro Lys Gly Ser Ile Val Arg Asn Lys Arg Val Gln Glu Thr
 305 310 315 320
 Ser Lys Asp Asn Phe Leu Leu Pro Leu Asp Val Trp Pro Thr Asp His
 325 330 335
 Lys Gly Leu Leu Val Thr Phe Lys Ile Lys
 340 345

<210> 9219

<211> 278

<212> PRT

<213> B.fragilis

<400> 9219

Asn Ile Ile Asp Met Asn Lys Leu Leu Tyr Cys Phe Phe Leu Ser Phe
 1 5 10 15
 Ser Val Ile Ala Thr Ser Ala Cys Thr Asp Asp Lys Glu Glu Arg Glu
 20 25 30
 Phe Pro Pro Ala Pro Asp Phe Ser Leu Met Ile Leu Lys Glu Asn Leu

35	40	45
His Ser Asn Gly Gly Asp Val Leu Arg Thr Asp Thr Tyr Val Tyr Asp		
50	55	60
Asn Asn Lys Leu Thr Thr His Thr Thr Leu Gln Glu Phe Tyr Gly Gln		
65	70	75
Ser Leu Thr His Glu Thr Thr Leu Ser Tyr Ser Gly Asn Glu Val Thr		
85	90	95
Leu Ala Asp Glu Asn Gly Asn Thr Ala Ile Tyr Ile Leu Gly Ser Ala		
100	105	110
Gly Tyr Ala Thr Glu Cys Thr Tyr Lys Leu Ser Asp Gln Val Arg Lys		
115	120	125
Tyr Thr Phe Thr Tyr Ser Gly Glu Tyr Leu Thr Arg Ile Asp Glu Glu		
130	135	140
Ile Asn Ser Thr Pro Tyr Ser Ser Val Glu Leu Ala Tyr Asp Asp Asn		
145	150	155
Gly Asn Leu Ser His Ile Ile Ala Asn Gly Leu Gln Thr Asn Tyr Gln		
165	170	175
Ala Gly Asn Thr Glu Asn Leu Tyr Gln Leu Pro Cys Leu Gln Val Cys		
180	185	190
Glu Thr Tyr Pro Leu Ser Phe His Asn Asp Ala Ile Tyr Ala Gly Leu		
195	200	205
Leu Gly Arg Gln Ser Lys His Leu Ile Ile Gly Asn Thr Pro Lys Glu		
210	215	220
Asn Lys Glu Glu Tyr Thr Lys Tyr Thr Tyr Glu Leu Asp Glu Asn Glu		
225	230	235
Lys Pro Thr Gly Ile Ile Ala Lys Thr Thr Ser Thr Gly Thr Val Ile		
245	250	255
Asp Ile Thr Gly Asn Ala Tyr Asp Glu Thr Lys Thr Asp Thr Arg Thr		
260	265	270
Ile Gly Ile Thr Ile Glu		
275		

<210> 9220

<211> 76

<212> PRT

<213> B.fragilis

<400> 9220

Lys Arg Asn Glu Lys Ser Leu Glu Gly Lys Arg Gly Tyr Leu Ile Ser		
1	5	10
Ile Ser Leu Ser Pro Ser Ser Thr Phe Leu Tyr Ser Ala Ile Gln Tyr		
20	25	30
Thr Tyr Gly Gly Gln Thr Arg Lys Val Arg Ser Cys Ala His Asp Glu		
35	40	45
Gly Gln Glu Thr Asp Pro Gln Val Ala Asp Ser Asp Asn His Glu Tyr		
50	55	60
Arg Glu Asn His Arg His Asn Asn Gly His Ser Phe		
65	70	75

<210> 9221

<211> 111

<212> PRT

<213> B.fragilis

<400> 9221

Lys His Thr Asp Met Glu Glu Lys Lys Glu Ala Arg Gln Lys Arg Asn		
1	5	10
Arg Glu Lys Leu Ala Thr Ala Asp Trp Val Met Ala Glu Phe Tyr Ala		
20	25	30

Thr Trp Cys Pro His Cys Lys Arg Met Gln Pro Val Val Glu Glu Phe
 35 40 45
 Lys Lys Leu Met Glu Gly Thr Leu Glu Val Val Gln Ile Asp Ile Asp
 50 55 60
 Gln Glu Asp Ala Leu Ala Asn Phe Tyr Thr Ile Glu Ser Val Pro Thr
 65 70 75 80
 Phe Ile Leu Met Arg Lys Gly Glu Gln Leu Trp Arg Gln Ser Gly Glu
 85 90 95
 Leu Asp Leu Glu Arg Leu Lys Lys Ala Val Lys Asp Leu Lys Ser
 100 105 110

<210> 9222

<211> 291

<212> PRT

<213> B.fragilis

<400> 9222

Lys Asn Thr Glu Met Asn Ile Leu Val Thr Gly Ala Asn Gly Gln Leu
 1 5 10 15
 Gly Asn Glu Met Gln Val Leu Ala Arg Glu Asn Leu Gln His Thr Tyr
 20 25 30
 Phe Phe Thr Asp Val Gln Glu Leu Asp Ile Cys Asp Glu Gln Ala Val
 35 40 45
 Tyr Ala Tyr Val Ser Glu His Lys Ile Asn Ile Ile Val Asn Cys Ala
 50 55 60
 Ala Tyr Thr Ala Val Asp Lys Ala Glu Asp Asn Val Glu Leu Cys Asp
 65 70 75 80
 Lys Leu Asn Asn Ile Ala Pro Gly Tyr Leu Ala Arg Ala Ala Gln Ala
 85 90 95
 Asn Gly Ala Ala Met Ile Gln Val Ser Thr Asp Tyr Val Phe Asp Gly
 100 105 110
 Thr Ala His Ile Pro Tyr Thr Glu Glu Glu Pro Thr Cys Pro Ala Ser
 115 120 125
 Val Tyr Gly Ser Thr Lys Leu Ala Gly Glu Gln Asn Val Met Asp His
 130 135 140
 Cys Glu Lys Ala Met Val Ile Arg Thr Ala Trp Leu Tyr Ser Ile Tyr
 145 150 155 160
 Gly Asn Asn Phe Val Lys Thr Met Ile Arg Leu Gly Gln Glu Arg Asp
 165 170 175
 Ser Leu Gly Val Ile Phe Asp Gln Ile Gly Thr Pro Thr Tyr Ala Asn
 180 185 190
 Asp Leu Ala Gln Ala Ile Phe Ala Ala Ile Asn Lys Gly Val Val Arg
 195 200 205
 Gly Ile Tyr His Phe Ser Asp Glu Gly Val Cys Ser Trp Tyr Asp Phe
 210 215 220
 Thr Val Ala Ile His Arg Leu Ala Gly Ile Ala Ser Cys Lys Val Lys
 225 230 235 240
 Pro Leu His Thr Ala Asp Tyr Pro Ala Lys Ala Pro Arg Pro His Tyr
 245 250 255
 Ser Val Leu Asp Lys Thr Lys Ile Lys Asp Thr Phe Gly Ile Glu Ile
 260 265 270
 Pro His Trp Glu Glu Ser Leu Lys Arg Cys Ile Asn Gln Leu Arg Met
 275 280 285
 Glu Thr Leu
 290

<210> 9223

<211> 373

<212> PRT

<213> B.fragilis

<400> 9223

Tyr Ile Lys Glu Glu Met Thr Leu Glu Glu Thr Asn Asn Cys Glu Ile
 1 5 10 15
 Ile Asp Glu Leu Ile Arg Gln Gly Arg Ser Phe Ala Met Tyr Arg Asn
 20 25 30
 Pro Gly Glu Glu Glu Pro His Phe Leu Met Gln Thr Cys Gly Glu Val
 35 40 45
 His Leu Ile Arg Lys Met Glu Asp Leu Asn Gly Arg Thr Gly Phe Val
 50 55 60
 Ile Ala Pro Phe Arg Val Thr Pro Gln Cys Pro Ile Ile Leu Ile Arg
 65 70 75 80
 Pro Asp Cys His Glu Ile Pro Ser Cys Ala Gly Asn Leu His Thr Pro
 85 90 95
 Ala Gln Gly Asp Asp Ala Ala Ser Tyr Gly Gln Gln Leu Arg Ser Asp
 100 105 110
 Arg Ser Leu Gly Ala Lys Lys Ala Tyr Glu Ala Cys Phe Asp Val Phe
 115 120 125
 Ile Arg Ala Leu Arg Glu Arg Thr Phe Asp Lys Leu Val Leu Ser Arg
 130 135 140
 Arg Met Met Val Arg Arg Glu Pro Gly Phe Ser Pro Ala Ala Ala Phe
 145 150 155 160
 Tyr Arg Ala Cys Arg Arg Tyr Ile Tyr Ser Tyr Val Tyr Leu Cys Tyr
 165 170 175
 Thr Pro Gln Thr Gly Val Trp Met Gly Ser Thr Pro Glu Ile Ile Leu
 180 185 190
 Ser Gly Glu Lys Gly Glu Trp Asn Thr Val Ala Leu Ala Gly Thr Gln
 195 200 205
 Ser Leu Gln Asn Gly Glu Leu Pro Gln Gln Trp Asp Glu Lys Asn Arg
 210 215 220
 Glu Glu Gln Glu Tyr Val Ala Ala Tyr Ile Arg Lys Gln Leu Arg Ser
 225 230 235 240
 Leu Gly Ile Ser Pro Thr Glu Lys Gly Pro Tyr Pro Ala Phe Ala Gly
 245 250 255
 Ala Leu Ser His Leu Lys Thr Asp Phe His Phe Ser Leu Asn Asp Ser
 260 265 270
 Gln Arg Leu Gly Asp Leu Leu Lys Leu Leu His Pro Thr Pro Ala Val
 275 280 285
 Cys Gly Leu Pro Lys Glu Glu Ala Tyr Arg Phe Ile Leu Asp Asn Glu
 290 295 300
 Gly Tyr Asp Arg Ser Tyr Tyr Ser Gly Phe Ile Gly Trp Leu Arg Pro
 305 310 315 320
 Glu Gly Arg Thr Asp Leu Tyr Val Asn Leu Arg Cys Met Asn Val Lys
 325 330 335
 Glu Asp Ser Leu Thr Leu Tyr Ala Gly Gly Leu Leu Ala Ser Ser
 340 345 350
 Glu Leu Asp Asp Glu Phe Gln Glu Thr Glu Lys Lys Met Gln Thr Met
 355 360 365
 Gln Asn Leu Asn Ser
 370

<210> 9224

<211> 579

<212> PRT

<213> B.fragilis

<400> 9224

Val Ser Gly Asp Gly Lys Glu Asp Ala Asp His Ala Glu Leu Glu Leu

1	5	10	15
Leu Asn Lys Ile Ile Tyr Lys Ala Met Tyr Ser Asp Lys Lys Asn Ile			
20	25	30	
Leu Gln Leu Val Ala Leu Leu Arg Ala His Gly Val Thr Lys Val Val			
35	40	45	
Leu Cys Pro Gly Ser Arg Asn Ala Pro Ile Val His Thr Leu Ala Gly			
50	55	60	
His Pro Asp Phe Thr Cys Tyr Ser Val Thr Asp Glu Arg Ser Ala Gly			
65	70	75	80
Phe Phe Ala Ile Gly Leu Ala Leu Gln Gly Gly Thr Pro Ala Ala Val			
85	90	95	
Cys Cys Thr Ser Gly Thr Ala Leu Leu Asn Leu His Pro Ala Ile Ala			
100	105	110	
Glu Ala Tyr Tyr Gln Lys Val Ser Leu Val Val Ile Ser Ala Asp Arg			
115	120	125	
Pro Ala Ala Trp Ile Asn Gln Met Asp Gly Gln Thr Leu Pro Gln Pro			
130	135	140	
Gly Val Phe Arg Ser Leu Val Lys Lys Ser Val Asp Leu Pro Glu Ile			
145	150	155	160
His Thr Asp Glu Asp Glu Trp Tyr Cys Asn Arg Leu Leu Asn Glu Ala			
165	170	175	
Leu Leu Glu Leu Asn His His Gly Lys Gly Pro Val His Ile Asn Val			
180	185	190	
Pro Val Ser Glu Pro Leu Phe Gln Phe Thr Ala Glu Ser Leu Pro Glu			
195	200	205	
Val Arg Val Ile Thr Arg Tyr Gln Gly Leu Asn Val Tyr Asp Arg Asp			
210	215	220	
Tyr Asp Gly Leu Ile Asp Arg Leu Asn Lys Tyr Asn Arg Arg Met Met			
225	230	235	240
Ile Val Gly Gln Met Asn Leu Ile Tyr Leu Phe Glu Lys Lys Tyr Ser			
245	250	255	
Lys Met Leu Tyr Lys Gln Phe Ala Trp Phe Thr Glu His Leu Gly Asn			
260	265	270	
Gln Thr Val Pro Gly Ile Pro Ile Arg Asn Phe Asp Ala Ala Leu Tyr			
275	280	285	
Ala Met Ser Pro Glu Met Gln Glu Lys Met Ile Pro Glu Leu Val Ile			
290	295	300	
Thr Tyr Gly Gly His Ile Val Ser Lys Arg Met Lys Lys Tyr Leu Arg			
305	310	315	320
Gln His Pro Pro Lys Glu His Trp His Val Ser Pro Asp Gly Glu Val			
325	330	335	
Ile Asp Leu Phe Gln Gly Ala Leu Thr Thr Ile Ile Glu Met Asp Pro			
340	345	350	
Phe Glu Phe Met Glu Lys Ile Ala Phe Leu Leu Asp Asn Arg Thr Pro			
355	360	365	
Glu Tyr Pro Arg Gln Trp Glu Asn Phe Cys Lys Glu Leu Pro Arg Pro			
370	375	380	
Glu Leu Pro Tyr Ser Glu Met Ser Ala Ile Gly Ser Leu Ile Gln Ala			
385	390	395	400
Leu Pro Ala Ser Cys Ala Leu His Leu Ala Asn Ser Ser Ala Val Arg			
405	410	415	
Tyr Ala Gln Leu Tyr Ser Leu Pro Asp Thr Val Glu Val Cys Cys Asn			
420	425	430	
Arg Gly Thr Ser Gly Ile Glu Gly Ser Leu Ser Thr Ala Ile Gly Tyr			
435	440	445	
Ala Ala Ala Ser Lys Lys Leu Asn Phe Val Val Ile Gly Asp Leu Ser			
450	455	460	
Phe Phe Tyr Asp Met Asn Ala Leu Trp Asn Asn His Phe Gly Ser Asn			
465	470	475	480

Leu Arg Ile Leu Leu Asn Asn Gly Gly Glu Ile Phe His Thr
 485 490 495
 Leu Pro Gly Leu Glu Met Ser Gly Thr Ser His Arg Phe Val Thr Ala
 500 505 510
 Val His Lys Thr Ser Ala Lys Gly Trp Ala Glu Glu Arg Gly Phe Leu
 515 520 525
 Tyr Gln Glu Val Gln Asp Glu Lys Gln Leu Asp Glu Ala Met Lys Thr
 530 535 540
 Phe Thr Gln Pro Glu Leu Leu Thr Gln Pro Val Ile Met Glu Val Phe
 545 550 555 560
 Thr Asn Lys Asn Lys Asp Ala Arg Ile Leu Lys Asp Tyr Tyr His Gln
 565 570 575
 Leu Lys Asn

<210> 9225
 <211> 351
 <212> PRT
 <213> B.fragilis

<400> 9225
 Ser Gly Gly Asp Ile Met Leu Ala Tyr Thr Tyr Val Glu His Gly Lys
 1 5 10 15
 Phe Glu Leu Leu Glu Lys Leu Arg Pro Gln Ile Lys Asp Ala Arg Asp
 20 25 30
 Ala Ile Val Arg Val Thr Leu Gly Ser Ile Cys Thr Ser Asp Leu His
 35 40 45
 Ile Lys His Gly Ser Val Pro Arg Ala Val Pro Gly Ile Thr Val Gly
 50 55 60
 His Glu Met Val Gly Ile Val Glu Glu Val Gly Ser Gly Val Ile Ser
 65 70 75 80
 Val Arg Pro Gly Asp Arg Val Thr Val Asn Val Glu Thr Phe Cys Gly
 85 90 95
 Glu Cys Phe Phe Cys Arg His Gly Tyr Val Asn Asn Cys Thr Asp Pro
 100 105 110
 Asp Gly Gly Trp Ala Leu Gly Cys Arg Ile Asp Gly Gly Gln Ala Glu
 115 120 125
 Tyr Val Arg Val Pro Tyr Ala Glu Gln Gly Leu Asn Arg Ile Pro Asp
 130 135 140
 Asn Val Ser Asp Glu Gln Ala Leu Phe Val Gly Asp Val Leu Ala Thr
 145 150 155 160
 Gly Phe Trp Ala Thr Arg Ile Ser Glu Ile Ser Glu Asp Asp Thr Val
 165 170 175
 Leu Ile Ile Gly Ala Gly Pro Thr Gly Ile Cys Thr Leu Leu Cys Val
 180 185 190
 Met Leu Lys Lys Pro Arg Arg Ile Ile Val Cys Glu Arg Ser Ala Glu
 195 200 205
 Arg Ile Arg Phe Val Arg Glu His Tyr Pro Asp Val Leu Val Thr Glu
 210 215 220
 Pro Glu Asn Cys Arg Asp Phe Val Leu Cys Asn Ser Asp His Gly Gly
 225 230 235 240
 Ala Asp Val Val Leu Glu Val Ala Gly Ser Glu Glu Thr Phe Arg Leu
 245 250 255
 Ala Trp Glu Cys Ala Arg Pro Asn Ala Ile Val Thr Ile Val Ala Leu
 260 265 270
 Tyr Asp Lys Pro Gln Phe Leu Pro Leu Pro Asp Met Tyr Gly Lys Asn
 275 280 285
 Leu Ile Phe Lys Thr Gly Gly Val Asp Gly Cys Asp Cys Ala Glu Ile
 290 295 300

5232

Leu Ser Leu Ile Glu Gln Gly Arg Ile Asp Thr Thr Pro Leu Ile Thr
 305 310 315 320
 His Arg Phe Pro Leu Asn Glu Ile Glu Glu Ala Tyr Arg Ile Phe Glu
 325 330 335
 Asn Lys Leu Glu Gly Val Ile Lys Ile Ala Ile Thr Gly Gly Arg
 340 345 350

<210> 9226

<211> 145

<212> PRT

<213> B.fragilis

<400> 9226

Met Ile Met Glu Asp Leu Cys Leu Lys Ile Leu Glu Gln Arg Gly Ile
 1 5 10 15
 Lys Pro Thr Ala Ile Arg Met Leu Val Leu Lys Ala Met Met Glu Thr
 20 25 30
 Glu Gln Ala Val Ser Leu Leu Asp Leu Glu Asn Lys Leu Asp Thr Val
 35 40 45
 Asp Lys Ser Thr Ile Phe Arg Thr Ile Thr Leu Phe Val Ser His His
 50 55 60
 Leu Ala His Ser Val Asp Asp Gly Thr Gly Ser Leu Lys Tyr Ala Val
 65 70 75 80
 Cys Asp Ser Glu Cys Thr Cys Ala Val Lys Asp Leu His Thr His Phe
 85 90 95
 Tyr Cys Glu Tyr Cys His Lys Thr Phe Cys Leu Glu Asn Ile His Val
 100 105 110
 Pro Val Val Asp Leu Pro Glu Gly Phe Ala Val Arg Ser Ile Asn Tyr
 115 120 125
 Val Leu Lys Gly Cys Cys Ala Glu Cys Ala Ala Glu Leu Lys Lys Asp
 130 135 140
 His
 145

<210> 9227

<211> 276

<212> PRT

<213> B.fragilis

<400> 9227

Ile Glu Met Glu Thr Lys Arg Glu Trp Thr Pro Ile Lys Glu Tyr Glu
 1 5 10 15
 Asp Ile Leu Phe Asp Tyr Tyr Asn Gly Ile Ala Arg Ile Thr Ile Asn
 20 25 30
 Arg Glu Arg Tyr Arg Asn Ala Phe Thr Pro Thr Thr Gly Glu Met
 35 40 45
 Ser Asp Ala Met Arg Ile Cys Arg Glu Glu Pro Asp Ile Asn Val Val
 50 55 60
 Val Leu Thr Gly Ala Gly Asp Lys Ala Phe Cys Ser Gly Gly Asp Gln
 65 70 75 80
 Asn Val Lys Gly Arg Gly Gly Tyr Ile Gly Lys Asp Gly Val Pro Arg
 85 90 95
 Leu Ser Val Leu Asp Val Gln Lys Gln Ile Arg Ser Ile Pro Lys Pro
 100 105 110
 Val Ile Ala Ala Val Asn Gly Phe Ala Ile Gly Gly His Val Leu
 115 120 125
 His Val Val Cys Asp Leu Ser Ile Ala Ser Glu Asn Ala Ile Phe Gly
 130 135 140
 Gln Thr Gly Pro Arg Val Gly Ser Phe Asp Ala Gly Phe Gly Ser Ser

145	150	155	160
Tyr Leu Ala Arg Val Val Gly Gln Lys	Lys Ala Arg Glu Ile Trp Phe		
165	170	175	
Leu Cys Arg Lys Tyr Asn Ala Gln Glu Ala Leu Asp Met	Gly Leu Val		
180	185	190	
Asn Lys Val Val Pro Leu Asp Lys Leu Glu Asp Glu Tyr	Val Gln Trp		
195	200	205	
Ala Glu Glu Met Met Gln Leu Ser Pro Leu Ala Leu Arg	Met Ile Lys		
210	215	220	
Ala Gly Leu Asn Ala Glu Leu Asp Gly Gln Ala Gly Ile	Gln Glu Leu		
225	230	235	240
Ala Gly Asp Ala Thr Leu Leu Tyr Tyr Leu Thr Asp Glu Ala	Gln Glu		
245	250	255	
Gly Lys Asn Ala Phe Leu Glu Lys Arg Lys Pro Asp Phe Lys	Gln Tyr		
260	265	270	
Pro Lys Phe Pro			
275			

<210> 9228

<211> 134

<212> PRT

<213> B.fragilis

<400> 9228

Lys Lys Met Glu Gln Thr Phe Lys Ala Arg Asn Pro Gln Leu	Gly Val		
1	5	10	15
Trp Leu Phe Ala Ile Gly Ile Ile Ala Cys Ile Ala Ile Ser	Phe Ile		
20	25	30	
Thr Ile Gln Ala Ile Trp Ile Gly Thr Ala Cys Ile Gly	Pro Ser Val		
35	40	45	
Thr Ile Tyr Phe Ser Gln Thr Ser Cys Lys Tyr Ile Val Lys	Lys Asn		
50	55	60	
Gly Asp Leu Gln Ile Val Asn Asp Phe Phe Arg Gln Lys Arg	Thr Phe		
65	70	75	80
Ser His Ile Thr Asp Val Thr Tyr Thr Arg His Ala Leu Gly	Met Gln		
85	90	95	
Lys Ile Lys Ile Arg His Ala Thr Gly Phe Val Met Ile Asp	Pro Gln		
100	105	110	
Ser Pro Arg Glu Leu Ile Lys Ala Leu Gln Lys Thr Asn Pro	Asp Val		
115	120	125	
Arg Val Lys Asn Phe Ile			
130			

<210> 9229

<211> 161

<212> PRT

<213> B.fragilis

<400> 9229

Arg Lys Met Glu Arg Ala Thr Phe Ser Leu Leu Phe Tyr Ile	Arg Arg		
1	5	10	15
Thr Lys Leu Asn Arg His Gly Glu Ala Pro Ile Leu Met Arg	Ile Thr		
20	25	30	
Val Asn Gly Val Arg Ala Asp Ala Ser Ile Lys Lys Thr Ile	Leu Pro		
35	40	45	
Gln Leu Trp Asp Ala Asp Lys Gly Arg Ala Leu Asp Lys Lys	Arg Glu		
50	55	60	
Gly Lys Glu Leu Asn Leu Tyr Leu Asp Ala Ile His Met Arg	Ile Leu		
65	70	75	80

Lys Ile Gln Arg Asp Leu Glu Ile Glu Gly Ala Asn Val Ile Ala Ser
 85 90 95
 Lys Val Leu Asp Arg Tyr Leu Arg Lys Gly Gly Phe Val Asp Arg Ser
 100 105 110
 Leu Phe Asp Val Phe Arg Glu His Asn Asp Lys Cys Lys Lys Leu Val
 115 120 125
 Gly Ile Ser Met Ala Ala Ala Thr Ala Gln Arg Tyr Glu Thr Thr Leu
 130 135 140
 Gln His Thr Gln Asp Phe Val Trp Asp Thr Tyr Arg Lys Lys Phe Phe
 145 150 155 160
 Phe

<210> 9230
<211> 331
<212> PRT
<213> B.fragilis

<400> 9230
 Arg Lys Arg Glu Lys Ser Ile Val Pro Leu Ala Gly Asn Leu Pro Ser
 1 5 10 15
 Leu Ile Gly Gln Ile Ala Lys Cys Phe Phe Phe Ser Cys Ile Ile
 20 25 30
 Tyr Glu Ile Ala Leu Asn Leu Ile Thr Asn Thr Tyr Lys Leu Met Asn
 35 40 45
 Lys Ile Cys Phe Phe Ile Gly Val Phe Ile Thr Leu Leu Leu Ala Gly
 50 55 60
 Cys Ser Ser Asn Pro Ile Thr His Val Arg Val Ala Thr Phe Asn Ile
 65 70 75 80
 Arg Tyr Asp Asn Pro Gly Asp Ser Leu Asn Ser Trp Lys Tyr Arg Lys
 85 90 95
 Glu Lys Val Cys Glu Tyr Ile Arg Glu Lys His Pro Asp Val Leu Gly
 100 105 110
 Met His Glu Val Leu Asn His Gln Ser Lys Asp Leu Met Ser Gly Leu
 115 120 125
 Pro Asp Tyr Ala Tyr Val Gly Val Gly Arg Glu Asp Gly Lys Thr Gln
 130 135 140
 Gly Glu Tyr Ala Pro Val Phe Tyr Arg Lys Asp Lys Tyr Asp Leu Leu
 145 150 155 160
 Asp Ser Asn Thr Phe Trp Leu Ser Glu His Pro Asp Ser Ile Gly Lys
 165 170 175
 Leu Gly Trp Asp Ala Ala Cys Thr Arg Val Ala Thr Trp Ala Lys Leu
 180 185 190
 Lys Asp Lys Thr Thr Gly Lys Glu Phe Leu Met Leu Asn Thr His Phe
 195 200 205
 Asp His Val Gly Thr Glu Ala Arg Arg Asn Ser Ala Leu Leu Ile Ile
 210 215 220
 Asp Lys Ile Lys Glu Ile Ala Gly Thr His Pro Ala Met Met Thr Gly
 225 230 235 240
 Asp Phe Asn Val Ser Glu Glu Trp Glu Ala Tyr Lys Thr Ile Thr Ser
 245 250 255
 Asn Glu Phe Val Leu Lys Asp Ala Trp Lys Ile Ala Gly Lys Gln Ser
 260 265 270
 Gly Glu Asn Tyr Thr Phe His Asp Phe Gly Arg Val Pro Val Ala Glu
 275 280 285
 Arg Glu Lys Ile Asp Phe Ile Phe Val Thr Pro Gln Ile Lys Val Ala
 290 295 300
 Asp Ala Glu Ile Ile Ser Ser Ala Ile Thr Asp Ser Thr Tyr Leu Ser
 305 310 315 320

Asp His Asn Ala His Leu Ala Asp Leu Glu Phe
 325 330

<210> 9231

<211> 64

<212> PRT

<213> B.fragilis

<400> 9231

Cys	Gln	Pro	Trp	Val	Ser	His	Leu	Asn	Ile	Lys	Ser	Arg	Asn	Asn	Tyr
1															15
Ile	Ile	Asn	Tyr	Lys	Asn	Ser	Gln	Asn	Glu	Lys	Lys	Asn	Cys	Phe	Tyr
															30
Cys	Gly	Thr	Phe	Met	Arg	Asn	Val	Leu	His	Asp	Ser	Ile	Arg	Thr	Val
															45
Gln	Asn	Arg	Trp	Lys	Glu	Asn	Gln	Cys	Arg	Gln	Ser	Gly	Thr	Ser	Arg
															60
50															
55															

<210> 9232

<211> 805

<212> PRT

<213> B.fragilis

<400> 9232

Leu	Asn	Leu	Cys	Tyr	Phe	Cys	Leu	Asp	Arg	Glu	Leu	Thr	Met	Glu	Phe
1															15
Ile	Asn	Pro	Lys	Phe	Lys	Tyr	Ile	Phe	Ala	Ser	Ile	Leu	Leu	Gly	
															30
Gly	Phe	Leu	Cys	Gly	Tyr	Asn	Phe	Lys	Gln	Trp	Tyr	Val	Thr	Asn	His
															45
35															
Arg	Asn	Glu	Lys	His	Ile	Ser	Leu	Ile	Tyr	Ser	Cys	Ser	Lys	Lys	Glu
															50
50															
55															60
Ala	Asp	Arg	Gly	Gln	Phe	Glu	Glu	Leu	Leu	Lys	Lys	Glu	Phe	Arg	Ser
65															80
Lys	Gly	Val	Glu	Pro	Ile	Phe	Asp	Lys	Phe	Tyr	Leu	Asp	Cys	Asn	Arg
															85
85															
Phe	Gly	Gln	Lys	Val	Glu	Ile	Glu	His	Ile	Ser	Asn	Tyr	Leu	Glu	Ala
															100
100															
105															110
Leu	Lys	Ser	Lys	Pro	Ile	Asp	Leu	Val	Met	Ala	Met	Gly	Asp	Gln	Ala
															115
115															
120															125
Thr	His	Ser	Leu	Leu	Ser	Thr	Arg	His	Pro	Leu	Leu	Tyr	Ser	Val	Pro
															130
130															
135															140
Val	Val	Ala	Cys	Asn	Val	His	Phe	Pro	Asp	Glu	Asp	Leu	Leu	Lys	Lys
145															145
150															
155															155
Tyr	Glu	Ser	Arg	Lys	Val	Tyr	Ala	Leu	Arg	Asp	Thr	Pro	Asp	Phe	Lys
															165
165															
170															170
175															
His	Asn	Met	Glu	Phe	Ile	Arg	Ser	Leu	Gln	Pro	His	Val	Gly	Leu	Glu
															180
180															
185															190
Ile	Val	Tyr	Asn	Ile	Asp	Leu	Thr	Pro	Leu	Gly	His	Lys	Ser	Phe	Asp
															195
195															
200															205
Leu	Leu	Asn	Gln	Val	Val	Asp	Arg	Lys	Asp	Val	Gln	Ile	Leu	Gly	His
															210
210															
215															220
Lys	Ser	Ala	Phe	Ser	Met	Glu	Tyr	Glu	Tyr	Lys	Glu	Met	Arg	Glu	Met
															225
225															
230															235
235															
Ile	Glu	Phe	Tyr	Asn	Leu	Met	Pro	Ala	Val	Ala	Asn	Asn	Arg	Ile	Lys
															245
245															
250															255
Lys	Lys	Glu	Leu	Thr	Ile	Ser	Leu	Cys	Pro	Phe	Arg	Tyr	Ile	Lys	Gly
															260
260															
265															270
Ala	Ser	Leu	Leu	Val	Met	Met	Glu	Asn	Ser	Glu	Gln	Gly	Lys		

275	280	285
Lys Ala Phe Leu Leu Asp Lys	Phe Asp Met Val Ser	Phe Pro Ile Val
290	295	300
Asn Ala Leu Ser Ile Pro Ser Phe Ser Cys Val His Ala Gly Phe Gly		
305	310	315
Glu Gly Asn Lys Ile Val Gly Gly Tyr Met Ala Thr Lys Glu Ile Ser		
325	330	335
Val Gln Ala Ala Ala Asp Leu Ser Thr Arg Leu Met Asn Lys Glu Lys		
340	345	350
Ile Gly Met Pro Lys Ile Arg Asp Leu Arg Lys Glu Tyr Val Leu Asp		
355	360	365
Trp Ser Val Phe Ser Thr Tyr Asn Gly Tyr Asp Ile Lys Asn Val Gly		
370	375	380
Lys Asn Val Arg Ile Ile Asn Tyr Pro Ile Tyr Asp His Tyr Arg Glu		
385	390	395
Glu Phe Tyr Leu Leu Gly Val Leu Phe Val Phe Ala Phe Ile Phe Ile		
405	410	415
Ser Val Ser Leu Leu His Thr Arg Arg Ser Leu Ile Glu Arg Lys		
420	425	430
Asn Leu Lys Ile Leu Glu Glu Ala His Lys Arg Leu Thr Leu Ser Ala		
435	440	445
Asp Gly Gly Gln Ile Ser Leu Trp Asn Met Gln Arg Ser Asp Ile Glu		
450	455	460
Phe Asp Asp Asn Tyr Ala Arg Leu Thr Gly Val Glu Lys Arg Lys Phe		
465	470	475
Lys Arg Thr Asp Phe Leu Glu Tyr Val His Pro Asp Asp Ser Gln Leu		
485	490	495
Leu Ser Ser Phe Tyr Glu Ala Leu Cys Lys Ser Pro Gly Val Glu Ile		
500	505	510
Gln Arg Val Arg Phe Arg Phe Asp Glu Lys Lys Gly Tyr Gln Trp Tyr		
515	520	525
Glu Leu Arg Cys Arg Ser Leu Lys Asp Ile Lys Gly Glu Met Met Leu		
530	535	540
Ala Gly Ile Met Gln Asn Ile Gln Glu Ser Val Glu Arg Glu His Gln		
545	550	555
Leu Ile Val Ala Lys Gln Met Ala Glu Lys Ala Glu Leu Lys Gln Ser		
565	570	575
Phe Leu Asn Asn Met Ser His Glu Ile Arg Thr Pro Leu Asn Ala Ile		
580	585	590
Val Gly Phe Thr Asn Val Leu Leu Gly Glu Gly Ser Glu Glu Ile Asp		
595	600	605
Pro Asp Glu Lys Ala Ser Met Leu Glu Ile Ile Asn His Asn Asn Glu		
610	615	620
Leu Leu Leu Lys Leu Ile Asn Asp Val Leu Glu Ile Ser Arg Leu Asp		
625	630	635
Ser Gly Ser Leu Asp Phe Asp Met Lys Glu Trp Asn Met Thr Asp Ile		
645	650	655
Val Lys Glu Ile Tyr Lys Thr Tyr Gln Pro Leu Ile Arg Ser Ser Leu		
660	665	670
Gln Phe Arg Leu Glu Leu Asp Asp Thr Val Ser Val Pro Val His Thr		
675	680	685
Asp Arg Leu Arg Phe Ala Gln Val Ile Ser Asn Phe Leu Asn Asn Ala		
690	695	700
Asn Lys Phe Thr Gln Asn Gly Tyr Ile Ala Leu Gly Cys Lys Val Asp		
705	710	715
Lys Lys His Arg Glu Val Arg Ile Tyr Val Glu Asp Ser Gly Lys Gly		
725	730	735
Ile Asp Glu Lys Glu Leu Met Met Ile Phe Glu Arg Phe Tyr Lys Thr		
740	745	750

Asp Glu Phe Glu Gln Gly Ser Gly Leu Gly Leu Ala Ile Ser Lys Val
 755 760 765
 Ile Ile Glu Arg Leu Ser Gly Arg Ile Lys Val His Ser Glu Lys Gly
 770 775 780
 Lys Gly Ser Cys Phe Thr Val Ile Leu Ser Leu Ala Asp Ala Pro Glu
 785 790 795 800
 Asn His Met Leu Ile
 805

<210> 9233

<211> 924

<212> PRT

<213> B.fragilis

<400> 9233

Ser Gln Thr Cys Arg Arg Asp Lys Asn Ile Ile Tyr Lys Met Arg
 1 5 10 15
 Ile Glu Arg Tyr Val Ile Lys Val Arg Asp Gln Ile Arg Lys Ala Leu
 20 25 30
 Val Ser Ile Ala Glu Pro Leu Glu Tyr Ile Lys Ala Gln Lys Glu Thr
 35 40 45
 Phe Tyr Lys Ala Ala Ile Leu Phe Leu Ile Leu Leu Leu Trp Arg
 50 55 60
 Ala Tyr Glu Gly Phe Trp Ile Ser Leu Phe Asp Lys Tyr Val Leu Ser
 65 70 75 80
 Cys Leu Asn Val Ser Trp Asp Trp Val Ser Phe Thr Leu Tyr Thr Leu
 85 90 95
 Ile Ile Cys Ser Ile Val Tyr Gln Leu Val Gln Cys Phe Lys His Lys
 100 105 110
 His Ile Leu Ser Met Tyr His Leu Ser Ile Tyr Ser Val Leu Ile Ile
 115 120 125
 Val Tyr Thr Phe Tyr Arg Phe Ser Ala Phe His Lys Gly Tyr Gln Asp
 130 135 140
 Phe Ser Ser Leu Tyr Tyr Leu Asp Leu Leu Val Leu Gly Leu Leu Val
 145 150 155 160
 Leu Val Val Ser Ala Ile Ser Asn Phe Ile Ile Val Leu Met Ser Glu
 165 170 175
 Gln Arg Asp Lys Pro Asn Thr Asn Phe Phe Met Ile Pro Asp Gln Pro
 180 185 190
 Ile Thr Thr Asp Asp Asp Asp Arg Leu Asp Tyr Ala Pro Glu Ala Arg
 195 200 205
 Met Leu Ala Glu Thr Ile Ser Gly Leu Lys Leu Asn Lys Ser Leu Ser
 210 215 220
 Ile Gly Val Thr Ser Gln Trp Gly Ser Gly Lys Thr Ser Tyr Leu Asn
 225 230 235 240
 Leu Val Glu Gln Cys Leu Asp Arg Asn Leu Phe Ile Ile Lys Phe
 245 250 255
 Asn Pro Arg Tyr Ser Lys Asn Val Ala Cys Ile Gln Glu Asp Phe Phe
 260 265 270
 Ser Ile Ile Ser Ser Ala Leu Lys Pro Tyr Asn Ser Cys Phe Ser Lys
 275 280 285
 Met Phe Lys Asn Tyr Met Glu Thr Leu Gln Leu Phe Asp Asp Lys Asn
 290 295 300
 Ile Val Thr Ala Ile Leu Asn Leu Lys Gly Ile Val Asp Arg Asp Ser
 305 310 315 320
 Glu Lys Glu Lys Leu Asp Met Ala Leu Lys Ile Leu Pro Lys Lys Val
 325 330 335
 Val Val Phe Leu Glu Asp Phe Asp Arg Leu Phe Lys Glu Glu Ile Ile
 340 345 350

Glu Val Phe Lys Leu Ile Asp Gly Asn Ala Ala Phe Pro Asn Leu Val
 355 360 365
 Phe Leu Thr Ala Tyr Asp Lys Ala Tyr Ile Val Lys Thr Ile Gly Ser
 370 375 380
 Asn Leu Glu Asp Gly Ala Ser Leu Phe Ser Asp Lys Phe Phe Asp Met
 385 390 395 400
 Glu Val Val Val Pro Leu Arg Pro Tyr Gln Gln Ile Phe Asp Phe Leu
 405 410 415
 Ser Lys His Leu Leu Glu Gly Leu Asn Cys Glu Val Gly Asp Glu His
 420 425 430
 Arg Tyr Gln Thr Ala Leu Glu Lys His Phe Tyr Val Ile Lys Arg Tyr
 435 440 445
 Leu Ile Thr Leu Arg Asp Val Lys Arg Phe Leu Asn Leu Phe Ile Asn
 450 455 460
 Asp Tyr Lys Phe Val Lys Gly Glu Val Asn Phe Glu Asp Tyr Phe Leu
 465 470 475 480
 Leu Thr Ile Ile Lys Phe Lys Asp Ser Glu Glu Tyr Lys Glu Leu Gly
 485 490 495
 His Asn His Lys Asn Ile Ser Asn Glu Phe Gly Arg Tyr Cys Phe Asp
 500 505 510
 Asn Asn Gly Gly Asp Glu Ile Lys Phe Ala Asp Ile Leu Asn Ile Leu
 515 520 525
 Phe Pro Pro Asn Phe Ser Ser Leu Glu Thr Asp Ser Glu Leu Arg Asp
 530 535 540
 Asn Phe Arg Arg Ile Asn Ser Thr Ala Ser Phe Asn Asn Tyr Phe Phe
 545 550 555 560
 Asn Arg Ile Tyr Asn Gln Leu Arg Leu Ser Asp Met Glu Glu Cys Leu
 565 570 575
 Arg Lys Asp Phe Met Met Ala Lys Leu Asp Ile Asp Asn Trp Ile Glu
 580 585 590
 Asn Asn Leu Ile Gly Gly Phe Val Glu Phe Leu Gln Gln Lys Asn Leu
 595 600 605
 Leu Cys Phe Asp Asn Lys Glu Arg Phe Ile Val Phe Met Gln Ile Val
 610 615 620
 Phe Tyr Leu Ser Leu Arg Leu Phe Asp Thr Glu Val Tyr Ile Leu Ile
 625 630 635 640
 Leu Arg Leu Val Thr Val Glu His Ile Lys Gln Phe Glu Gln Arg Tyr
 645 650 655
 Thr Phe Ser Gln Met Glu Tyr Lys Ile Leu Ile Ser Glu Ile Leu Asn
 660 665 670
 Glu Gly Tyr Pro Cys Phe His Tyr Arg Ile Ile Gln Lys Leu Ile Leu
 675 680 685
 Asn Leu Cys Asn Gly Glu Leu Val Phe Glu Ile Ile Tyr Thr Lys Glu
 690 695 700
 Glu Leu Ile Asn Ile Ala Arg Lys Leu Leu Lys Gly Tyr Ile Ser Glu
 705 710 715 720
 Asn Glu Thr Met Cys Asp Val His Met Asp Ile Leu Tyr Ser Cys Val
 725 730 735
 Lys Asp Val Asn Gln Glu Thr Arg Lys Val Thr Leu Asp Glu Asp Ser
 740 745 750
 Cys Leu Ala Val Arg Asn Leu Ile Phe Leu Ser Pro Gly Tyr Tyr Ile
 755 760 765
 Ser Thr Phe Val Arg Leu Gly Met Phe Ser Ser Asn Pro Asp Met Asn
 770 775 780
 Ser Ile Ala Cys Glu Pro Tyr Trp Lys Gln Ile Phe Gly Glu Ala Gln
 785 790 795 800
 Thr Phe Glu Thr Phe Ile Leu Gly Glu Thr Leu Asn Ser Ile Pro Glu
 805 810 815
 Ile Gln Arg Val Arg Asn Phe Trp Lys Leu Tyr Ser Asn Asn Asp Tyr

820	825	830
Glu Pro Ile Pro Met Glu Arg Met Gly Asn Val Gln Lys Met Ile Asn		
835	840	845
Asp Asn Leu Val Ile Leu Met Pro Leu Phe Glu Asn Ile Gln Ala Ile		
850	855	860
Glu Arg Lys Phe Lys Glu Ile Gln Arg Asp Tyr Asp Val Ala Asn Pro		
865	870	875
Gln Glu Ser Ile Asp Lys Cys Gln Leu Leu Lys Gln Lys Ile Gly Ala		880
885	890	895
Asp Gly Leu Phe Ile Ala Lys Asn Gly Gln Leu Ile Arg Gln Ile Asp		
900	905	910
Gln Trp Ile Ser Gly Ile Ser Gly Ser Asn Asn Ala		
915	920	

<210> 9234

<211> 344

<212> PRT

<213> B.fragilis

<400> 9234

Ser Gly Met Trp Ala Trp Gly Ile Phe Gly Thr Ile Asn Tyr Ala Thr		
1	5	10
Thr Asp Glu Arg Phe Thr Ala Ser Leu Gly Val Arg Thr Asp Ala Asn		15
20	25	30
Asn Phe Ser Ser Gly Met Lys Gly Met Gly Asp Gln Leu Ser Pro Arg		
35	40	45
Leu Ser Leu Ser Tyr Arg Leu Thr Asp Gly Leu Tyr Leu Ser Gly Asn		
50	55	60
Ala Gly Leu Tyr Tyr Gln Leu Pro Pro Tyr Thr Gly Leu Gly Phe Lys		
65	70	75
Asp Asn Asn Gly Ala Trp Val Asn Lys Tyr Leu Arg Tyr Met Ser Val		80
85	90	95
Ser Gln Glu Ser Leu Gly Leu Ser Trp His Pro Gly Asn Thr Phe Glu		
100	105	110
Leu Ser Ala Glu Gly Phe Tyr Lys Gln Tyr Asp Lys Ile Pro Phe Ser		
115	120	125
Ile Ala Asp Gly Ile Pro Leu Ala Cys Lys Gly Asn Asp Tyr Gly Val		
130	135	140
Ile Gly Asn Glu Ala Leu Ser Ser Thr Ala Gln Gly Arg Ala Tyr Gly		
145	150	155
Ile Glu Ile Leu Met Lys Trp Leu Ile Ala Lys Lys Leu Asn Leu Ala		160
165	170	175
Ser Ser Phe Thr Leu Phe Lys Ser Glu Tyr Arg Asn Asn Lys Gln Ser		
180	185	190
Glu Tyr Ile Ala Ser Ala Trp Asp Asn Arg Tyr Ile Phe Asn Met Ser		
195	200	205
Gly Thr Tyr Asn Phe Pro His Asn Trp Ser Leu Gly Met Lys Ile Ser		
210	215	220
Cys Ile Gly Gly Ala Pro Tyr Thr Pro Tyr Asp Val Glu Lys Ser Ser		
225	230	235
Leu Val Thr Ala Trp Asn Ala Gln Gly Arg Pro Tyr Tyr Asp Tyr Thr		240
245	250	255
Lys Tyr Asn Thr Gly Arg Leu Pro Ala Phe Gly Gln Leu Asp Val Arg		
260	265	270
Val Asp Lys Thr Phe Tyr Leu Lys Arg Cys Met Leu Gly Phe Tyr Ile		
275	280	285
Asp Leu Gln Asn Val Thr Asn Ser Lys Phe Lys Gln Pro Asp Ile Leu		
290	295	300
Met Ser Thr Gly Val Ile Glu Asn Pro Ser Ala Pro Met Ala Glu Gln		

305	310	315	320
Arg Tyr Lys Met Lys	Tyr Ile Thr Gln Lys Ser Gly Thr Leu Met Pro		
325	330	335	
Thr Leu Gly Ile Thr Phe Glu Tyr			
340			

<210> 9235

<211> 115

<212> PRT

<213> B.fragilis

<400> 9235

Pro Val Pro Trp Glu Arg Asn Ser Met Arg Gln Ile Met Ser Ala Tyr			
1	5	10	15
Met Trp Asn Arg Glu Phe Arg Ile Ser Leu Met Met Ala Pro Lys Tyr			
20	25	30	
Lys Pro Ser Glu Lys Lys Gly Leu Val Thr Leu Thr Cys Arg Gln Asp			
35	40	45	
Cys Asp Ser Leu Ile Lys Val Gly Trp Gln Lys Ile Cys Arg Leu His			
50	55	60	
Tyr Leu Pro Val Leu Ala Leu Tyr Cys Asn Glu Leu Arg Gln Glu Gln			
65	70	75	80
Gly Asp Phe Tyr Ile Val Thr Tyr Lys Ile Ile Asn Lys Cys Ser Arg			
85	90	95	
His Asn Ser Pro Gln Ser Glu Leu Asn Leu Leu Met Ala Asn Glu Ser			
100	105	110	
Leu Ser Val			
115			

<210> 9236

<211> 110

<212> PRT

<213> B.fragilis

<400> 9236

Val Ser Val Arg Asn Thr Ser Pro Pro Leu Leu Cys Arg Phe Ser Phe			
1	5	10	15
Arg Ile Ile Arg Leu Lys Ser Gly Ala Gly Gly Asn Ser Arg Ser Ser			
20	25	30	
Leu Ser Ser Val His Ala Glu Val Ala Met Thr Glu Asn Asp Lys Lys			
35	40	45	
Lys Gln Tyr Arg Ser Leu Phe Ile Ser Ile Met Phe Tyr Leu Pro Ala			
50	55	60	
Asn Val Val Asn Asn Leu Leu Tyr Leu Pro Arg Leu Trp Tyr Lys Asn			
65	70	75	80
Ala Phe Asn Val Arg Phe Leu Ser Ile Pro Asp Ser Ser Ile Phe Ala			
85	90	95	
Thr Tyr Lys Asp Trp Thr Leu Thr Met Asn Ser Lys Tyr Arg			
100	105	110	

<210> 9237

<211> 61

<212> PRT

<213> B.fragilis

<400> 9237

Leu Glu Pro Arg Ser Ser Gly Arg Ala Asp Gln Val Ile Thr Ile Ile			
1	5	10	15
Leu Pro Ser Lys Lys Arg Ile Asp Ile Leu Asn Gln Cys Ala Phe Ile			

20	25	30
Leu Met Ile Phe Phe Gln Leu Cys Arg Thr Phe Ser Thr Thr Ala Phe		
35	40	45
Gln Asp Ile Ile Tyr Thr Ser Tyr Ser Lys Ser Leu Gly		
50	55	60

<210> 9238

<211> 173

<212> PRT

<213> B.fragilis

<400> 9238

1	5	10	15
Asn Ser Met Ala Lys Glu Leu Asn Phe Thr Leu Glu Gly Val Gln Gly			
20	25	30	
Asp Leu Lys Leu Lys Tyr Gly Pro Phe Asn Gln Arg Leu Tyr Gln Asp			
35	40	45	
Gly Arg Glu Ile Lys Lys Gln Gly Arg Phe Asn Pro Lys Tyr Tyr Val			
50	55	60	
Ile Asn Thr Asn Gly Glu Lys Glu Glu Ile Lys Val Val Tyr Gly Phe			
65	70	75	80
Asp Phe Val His Val Ala Val Phe Arg Gly Gln Lys Ile Asp Leu Glu			
85	90	95	
Glu Arg Leu Ser Ile Arg Glu Tyr Ile Val Gly Gly Leu Pro Val Leu			
100	105	110	
Leu Val Phe Leu Gly Gly Leu Ile Gly Ala Leu Phe Gly Ile Met Gly			
115	120	125	
Ala Thr Phe Asn Tyr Asn His Met Arg Gln Glu Lys Ser Phe Met Lys			
130	135	140	
Gln Leu Leu Val Ser Leu Gly Val Ser Ile Leu Cys Tyr Val Ala Tyr			
145	150	155	160
Phe Ile Phe Ala Ile Gly Val Gln Leu Ile Val Ala Arg			
165	170		

<210> 9239

<211> 214

<212> PRT

<213> B.fragilis

<400> 9239

1	5	10	15
Ala Gln Thr Leu Thr Asn Leu Asn Ile Asn Asp Asn Asn Ala Val Ile			
20	25	30	
Ser Ala Leu Arg Glu Gly Asp Glu Glu Val Phe Asp His Ile Tyr Arg			
35	40	45	
Tyr Tyr Phe Arg Gly Leu Cys Ala Phe Cys Ser Gln Tyr Val Thr Leu			
50	55	60	
Ser Glu Ser Glu Glu Ile Val Gln Asp Thr Met Met Trp Leu Trp Glu			
65	70	75	80
Asn Arg Lys Thr Leu Ile Pro Glu Leu Thr Leu Lys Thr Leu Leu Phe			
85	90	95	
Thr Ile Val Lys Asn Lys Ala Leu Asn Lys Ile Ser His Phe Glu Ile			
100	105	110	
Lys Arg Lys Val His Gln Glu Ile Ala Glu Lys Tyr Glu Thr Glu Phe			
115	120	125	
Ser Ser Pro Asp Phe Tyr Leu Glu Asn Glu Leu Phe Arg Leu Tyr Glu			
130	135	140	

Glu Ala Leu Arg Lys Leu Pro Ala Glu Phe Arg Gln Ala Tyr Glu Met
 145 150 155 160
 Asn Arg Ser Leu Gln Met Thr His Lys Glu Ile Ala Glu Lys Leu Asn
 165 170 175
 Val Ser Pro Gln Thr Ile Asn Tyr Arg Ile Gly Gln Ala Leu Lys Ile
 180 185 190
 Leu Arg Ser Glu Leu Lys Asp Tyr Leu Pro Leu Ile Met Leu Phe Leu
 195 200 205
 Phe Leu Gln Gly His Lys
 210

<210> 9240

<211> 338

<212> PRT

<213> B.fragilis

<400> 9240

Asp Met Asn Arg His Leu Asn Phe Val Thr Leu Ile Cys Leu Ile Thr
 1 5 10 15
 Gly Phe Val Ser Leu Ala Ser Cys Ser Asn Asp Asp Asp Glu Met Asp
 20 25 30
 Lys Tyr Gln Lys Ile Tyr Ile Arg Thr Gly Val Ala Pro Gly Ala Glu
 35 40 45
 Met Gly Ala Ala Val Val Val Asp Cys Val Ser Asn Ser Ser Thr Ala
 50 55 60
 Asp Arg Ser Asp Phe Glu Ile Gln Leu Cys Ala Val Gln Pro Val Thr
 65 70 75 80
 Arg Asp Val Thr Ala Ala Leu Gly Val Asp Thr Leu Lys Val Asp Thr
 85 90 95
 Tyr Asn Ser Ala Asn Lys Thr Lys Cys Lys Leu Leu Pro Gln Asp Asn
 100 105 110
 Tyr Thr Ile Glu Thr Ser Glu Val Val Leu Lys Thr Gly Gln Thr Val
 115 120 125
 Ala Asp Ser Ser Phe Gln Val Val Leu Lys Asn Ile Glu Lys Leu Thr
 130 135 140
 Asn Pro Asp Gly Tyr Val Leu Pro Val Ala Leu Lys Gly Val Thr Gly
 145 150 155 160
 Met Asp Glu Gln Ala Val Ser Thr Ser Met Lys Thr Val Tyr Ile Arg
 165 170 175
 Ile Tyr Thr Ser Val Leu Tyr Thr Ser Tyr Thr Lys Pro Gly Asn Trp
 180 185 190
 Ser Ala Val Asp Arg Ser Ala Trp Ser Val Ser Cys Ser Asn Val Tyr
 195 200 205
 Ala Asp Asp Asp Ala Lys Tyr Gly Ala His Leu Ala Ile Asp Gly Glu
 210 215 220
 Ile Asn Thr Thr Trp Phe Thr Trp Gly Val Ala Asn Ala Gly Glu Cys
 225 230 235 240
 Trp Trp Asn Thr Val Leu Asp Arg Pro Val Thr Leu Thr Gly Phe Ser
 245 250 255
 Val Thr Lys Gln Ser Ala Tyr Gly Ser Gly Tyr Asn Leu Arg Ser Ala
 260 265 270
 Glu Ile Lys Val Arg Lys Glu Gly Glu Thr Glu Trp Val Thr Tyr Pro
 275 280 285
 Arg Val Leu Thr Phe Arg Asn Phe Lys Gly Ala Asp Pro Gln Tyr Ala
 290 295 300
 Ala Ile Glu Pro Pro Ile Pro Asn Val Lys Glu Phe Arg Ile Asn Cys
 305 310 315 320
 Leu Thr Pro Asp Asn Tyr Thr Gly Phe Ala Glu Ile Asn Leu Tyr Val
 325 330 335

Lys Gln

<210> 9241

<211> 483

<212> PRT

<213> B.fragilis

<400> 9241

Ala Asp Asn Arg Arg Phe His Gln Gln Ser Lys Ser Asn Phe Lys Asn
 1 5 10 15
 Met Ala Thr Lys Ser Ser Ile His Ile Lys Pro Cys Arg Val Thr Ser
 20 25 30
 Ser Gly Ala His Asn Arg Arg Thr Ala Glu Tyr Met Arg Asn Ile Gly
 35 40 45
 Glu Ser Arg Ile Tyr Ile Val Pro Glu Leu Thr Ser Asn Asn Glu Gln
 50 55 60
 Trp Ile Asn Pro Gly Phe Gly Ser Pro Asp Leu Gln Ala His Tyr Asp
 65 70 75 80
 Ser Ile Lys Arg Met Val Lys Glu Lys Thr Gly Arg Ala Met Gln Glu
 85 90 95
 Lys Glu Arg Glu Arg Lys Gly Lys Asn Gly Lys Ile Ile Lys Val Ala
 100 105 110
 Gly Cys Ser Pro Ile Arg Glu Gly Val Leu Leu Ile Arg Pro Asp Thr
 115 120 125
 Thr Leu Ala Asp Val Arg Lys Phe Gly Glu Glu Cys Gln Arg Arg Trp
 130 135 140
 Gly Ile Thr Pro Leu Gln Ile Phe Leu His Lys Asp Glu Gly His Trp
 145 150 155 160
 Leu Ser Gly Gln Pro Lys Thr Gly Asp Arg Glu Ser Phe Gln Val Gly
 165 170 175
 Glu Lys Trp Phe Lys Pro Asn Tyr His Ala His Ile Val Phe Asp Trp
 180 185 190
 Met Asn His Asp Thr Gly Lys Ser Gln Lys Leu Asn Asp Asp Asp Met
 195 200 205
 Met Glu Met Gln Thr Leu Ala Ser Asp Ile Leu Ser Met Gln Arg Gly
 210 215 220
 Gln Ser Lys Ser Glu Thr Gly Lys Glu His Leu Glu Arg Asn Asp Phe
 225 230 235 240
 Ile Ile Glu Lys Gln Arg Ala Glu Leu Gln Arg Met Asp Ala Ala Lys
 245 250 255
 Arg His Lys Glu Glu Gln Ile Gly Leu Ala Glu Gln Glu Leu Lys Gln
 260 265 270
 Val Lys Ser Glu Ile Arg Thr Asp Lys Leu Lys Lys Thr Ala Thr Asn
 275 280 285
 Ala Ala Thr Ala Ile Ala Ser Gly Val Gly Ser Leu Phe Gly Ser Gly
 290 295 300
 Lys Met Lys Glu Leu Glu Arg Thr Asn Glu Asp Leu His Gln Glu Ile
 305 310 315 320
 Ala Lys Arg Asp Lys Gly Ile Asp Thr Leu Lys Ile Gln Met Gln Glu
 325 330 335
 Met Gln Glu Arg His Gly Lys Gln Ile Arg Asn Leu Gln Ser Ile His
 340 345 350
 Asn Gln Glu Leu Glu Ala Lys Asp Arg Glu Ile Ser Arg Leu Asn Thr
 355 360 365
 Leu Leu Glu Lys Ala Phe Lys Trp Phe Pro Met Leu Arg Glu Met Leu
 370 375 380
 Arg Met Glu Lys Leu Cys Ala Val Ile Gly Phe Thr Lys Asp Met Ile
 385 390 395
 400

Asp Cys Leu Leu Thr Arg Lys Glu Ala Ile Gln Cys Asn Gly Lys Ile
 405 410 415
 Tyr Ser Glu Glu His Arg Arg Lys Phe Glu Ile Lys Asn Asn Ile Phe
 420 425 430
 Lys Val Glu Lys Asn Pro Thr Asp Asp Ser Lys Leu Val Leu Thr Ile
 435 440 445
 Asn Arg Gln Pro Ile Ser Glu Trp Phe Lys Glu Gln Trp Glu Lys Leu
 450 455 460
 Arg Gln Gly Leu Arg Gln Pro Thr Glu Glu Pro Arg Lys Ser Arg Gly
 465 470 475 480
 Phe Lys Leu

<210> 9242

<211> 65

<212> PRT

<213> B.fragilis

<400> 9242

Ala Lys Ile Arg Asp Ile Lys Asn Ile Thr Gln Asp Tyr Asp Lys Lys
 1 5 10 15
 Leu Leu Ser Leu Phe Asn Asn Thr Thr His Pro Gly Lys Leu Leu Thr
 20 25 30
 Ser Ile Thr Leu Phe Leu Leu Asn Phe Ile Asn Thr Thr His Ala Lys
 35 40 45
 Lys His Arg Arg Leu Ser Ser Pro Met Pro Leu Ala Pro Leu Ser Thr
 50 55 60

Ile

65

<210> 9243

<211> 137

<212> PRT

<213> B.fragilis

<400> 9243

Leu Met Ala Ser Leu Lys Val Phe Ile Arg Lys Pro Gly Leu Thr Leu
 1 5 10 15
 Thr Ile Ser Leu Cys Arg His Thr Leu Thr Leu Ala Gly Asn Ser Asp
 20 25 30
 Ala Asn Leu Asp Arg Arg Leu Ala Gly Thr Ile Ala Asn Phe Lys Gly
 35 40 45
 Ile Leu Pro Pro Glu Lys Val Ala Asn Met Tyr Ile Val Thr Glu Asn
 50 55 60
 Phe Glu Ser Tyr Ala Pro Thr Gly Gly Asp Tyr Val Asp Arg Tyr
 65 70 75 80
 Gly Asn Lys Met Arg Ala Leu Ala Gly Met Ala Arg Trp Thr Pro Thr
 85 90 95
 Ile Asp Gly Lys Gln Val Arg Lys Gly Val Gly Thr Tyr His Met
 100 105 110
 Glu Tyr Asp Tyr Pro Gly Asp Ile Glu Tyr Lys Tyr Leu Arg Glu Ala
 115 120 125
 Ile Arg Ile Met Asn Pro Ala Val Lys
 130 135

<210> 9244

<211> 327

<212> PRT

<213> B.fragilis

<400> 9244

Leu Pro Phe Gly Asn Phe Ser Phe Phe Pro Val Thr Tyr Leu Cys Ala
 1 5 10 15
 Gln Ile Leu Ile Leu Tyr Asp Met Lys Ser Leu Lys Gly Ile Ile Tyr
 20 25 30
 Ala Met Ile Ser Ser Gly Thr Phe Gly Leu Ile Pro Leu Phe Thr Ile
 35 40 45
 Pro Leu Met Gly Asn Met Glu Met Asn Glu Ser Asn Ile Leu Phe Tyr
 50 55 60
 Arg Phe Leu Phe Ser Thr Leu Met Met Gly Ala Val Cys Leu Leu His
 65 70 75 80
 Lys Ser Thr Leu Lys Ile Asn Met Lys His Leu Ile Ser Ile Ile Gly
 85 90 95
 Leu Gly Ala Leu Tyr Ala Leu Thr Ala Leu Phe Leu Ile Tyr Ser Tyr
 100 105 110
 His Tyr Ile Thr Ser Gly Val Ala Thr Thr Ile His Phe Leu Tyr Pro
 115 120 125
 Ile Cys Val Ser Phe Leu Met Val Val Phe Phe Lys Glu Gln Lys Ser
 130 135 140
 Lys Ser Leu Phe Leu Ala Ala Ser Leu Ser Leu Ile Gly Val Ala Leu
 145 150 155 160
 Met Cys Trp Ser Gly Gly Ser Ile Arg Leu Met Gly Ile Gly Leu
 165 170 175
 Ala Ala Leu Thr Ile Leu Thr Tyr Gly Ile Tyr Ile Val Ala Leu Asn
 180 185 190
 Gln Leu Asp Ile Gly Lys Leu Pro Ala Glu Val Leu Thr Phe Tyr Val
 195 200 205
 Leu Leu Gly Gly Cys Val Ile Phe Phe Ile Tyr Ser Leu Phe Thr Ala
 210 215 220
 Gly Ile Ser Ser Ile Pro Ser Thr Lys Ala Gly Phe Tyr Ile Leu Ala
 225 230 235 240
 Leu Ala Phe Leu Ser Thr Val Ile Ser Asp Leu Thr Leu Ile Leu Ala
 245 250 255
 Val Lys Tyr Ala Gly Ser Thr Thr Ala Ile Leu Gly Ser Met Glu
 260 265 270
 Pro Leu Val Ala Val Val Gly Val Leu Val Phe Ser Glu His Phe
 275 280 285
 Thr Leu Gln Ser Leu Ile Gly Leu Leu Leu Ile Leu Met Ser Val Ile
 290 295 300
 Ile Val Ile Leu Ala Asp Gln Gln Lys Lys Ser Lys Arg Ile Thr Glu
 305 310 315 320
 Gln Lys Ile Ile Lys Pro His
 325

<210> 9245

<211> 211
 <212> PRT
 <213> B.fragilis

<400> 9245

Ile Cys Phe Gly Lys Ser Ser Ala Leu Phe Ser Lys Lys Asn Ile Leu
 1 5 10 15
 Leu Ser Thr Met Pro Leu Ser Phe Gly Thr Arg Trp Pro Lys Glu Phe
 20 25 30
 Ala Ile Lys Met Val Pro Leu Phe Leu Lys Thr Ser Val Ala Gly Trp
 35 40 45
 Gly Leu Gly Leu Ser Thr Gln Asp Ile Gly Leu Val Tyr Gly Thr Phe
 50 55 60

Gly Ala Gly Ala Phe Ile Leu Gly Ser Leu Leu Ala Gly Tyr Tyr Ile
 65 70 75 80
 Ser Ala Phe Gly Leu Arg Lys Thr Leu Phe Ser Leu Cys Cys Ala Phe
 85 90 95
 Asn Ile Pro Phe Leu Val Tyr Phe Leu Leu Ala Leu Tyr Gln Pro Ser
 100 105 110
 Asp Leu Trp Ile Ile Gly Met Ala Ile Val Ser Glu Tyr Leu Gly Tyr
 115 120 125
 Gly Phe Gly Phe Val Gly Leu Met Leu Phe Met Met Gln Gln Val Ala
 130 135 140
 Pro Gly Lys His Gln Met Ala His Tyr Ala Phe Ala Thr Gly Ile Met
 145 150 155 160
 Asn Leu Gly Val Met Leu Pro Gly Met Met Ser Gly Tyr Leu Ser Asp
 165 170 175
 Trp Leu Gly Tyr Arg Asp Phe Phe Ile Trp Val Leu Ile Ala Thr Ile
 180 185 190
 Pro Ala Phe Ile Val Thr Trp Leu Val Pro Phe Thr Tyr Pro Asp Gly
 195 200 205
 Lys Lys Lys
 210

<210> 9246

<211> 301

<212> PRT

<213> B.fragilis

<400> 9246

Arg Glu Ala Gly Arg Gly Val Phe Val Leu Thr Leu Ser Ala His Ile
 1 5 10 15
 Thr Ile Glu Lys Gly Lys Ile Ile Glu Leu Ile Lys Ser Lys Arg Ile
 20 25 30
 Pro Ile Ile Glu Ile Ser Ser Leu Ser His Pro Gly Val Glu Ile Phe
 35 40 45
 Ser Thr Leu Thr Glu Ala Gln Leu Arg Asn Arg Ile Asp Ser Asp Arg
 50 55 60
 Gly Ile Phe Ile Ala Glu Ser Pro Lys Val Ile Gln Val Ala Leu Asp
 65 70 75 80
 Ala Gly Tyr Glu Pro Leu Ala Ile Leu Cys Glu Gln Lys His Ile Ile
 85 90 95
 Gly Asp Ala Ala Val Ile Ile Glu Arg Cys Gly Asp Ile Pro Val Tyr
 100 105 110
 Thr Gly Lys Arg Asp Ile Leu Ala Leu Leu Thr Gly Tyr Thr Leu Thr
 115 120 125
 Arg Gly Val Leu Cys Ala Met Arg Arg Pro Glu Leu Arg Ser Val Glu
 130 135 140
 Glu Val Cys Arg Glu Ala Lys Arg Ile Val Val Ile Asp Gly Val Val
 145 150 155 160
 Asp Thr Thr Asn Ile Gly Ala Ile Phe Arg Ser Ala Ala Leu Gly
 165 170 175
 Ile Asp Ala Val Leu Leu Thr Arg Asn Ser Cys Asp Pro Leu Asn Arg
 180 185 190
 Arg Ala Val Arg Val Ser Met Gly Ser Ile Phe Leu Val Ser Trp Thr
 195 200 205
 Trp Ile Asp Gly Ser Leu Ser Arg Leu Gly Asp Leu Gly Phe Arg Thr
 210 215 220
 Ala Ala Met Ala Leu Thr Asp Asp Ser Ile Ser Ile Asp Asp Pro Val
 225 230 235 240
 Leu Lys Thr Glu Pro Lys Leu Ala Ile Ile Met Gly Thr Glu Gly Asp
 245 250 255

Gly Leu Pro Tyr Glu Thr Ile Ser Glu Ala Asp Tyr Val Val Arg Ile
 260 265 270
 Pro Met Ser His Ser Val Asp Ser Leu Asn Val Ala Ala Ala Ala Ser
 275 280 285
 Val Ala Phe Trp Glu Leu Arg Ala Pro Thr Phe Lys Glu
 290 295 300

<210> 9247

<211> 355

<212> PRT

<213> B.fragilis

<400> 9247

Ala Asp Arg Gly Leu Leu Asp Gly Arg Pro Phe Leu Tyr Ile Ile Phe
 1 5 10 15
 Met Tyr Thr Ile Asn Ile Ile Pro Arg Val Leu His Phe Lys Gln Pro
 20 25 30
 Ala Gly Thr Ser Arg Gly Ser Tyr Thr Thr Arg Asn Val Trp Tyr Ile
 35 40 45
 His Leu Ser Ser Ile Glu Cys Pro Gly Arg Val Gly Val Gly Glu Cys
 50 55 60
 Ala Pro Leu Pro Lys Leu Ser Cys Asp Asp Leu Pro Asp Tyr Glu Gln
 65 70 75 80
 Val Leu Arg Ser Ala Cys Gln Arg Leu Glu Gln Thr Gly Glu Leu Asp
 85 90 95
 Ile Glu Ser Leu Arg Gly Tyr Pro Ser Ile Leu Phe Gly Leu Glu Thr
 100 105 110
 Ala Leu Arg His Tyr Glu Thr Gln Ser Trp Ala Leu Trp Asp Thr Pro
 115 120 125
 Phe Ser Arg Gly Glu Ala Gly Ile Pro Ile Asn Gly Leu Ile Trp Met
 130 135 140
 Gly Ser Phe Asp Arg Met Leu Gln Gln Ile Glu Val Lys Met Gln Ala
 145 150 155 160
 Gly Tyr Arg Cys Ile Lys Leu Lys Ile Gly Ala Ile Asn Phe Glu Glu
 165 170 175
 Glu Leu Ala Leu Leu Arg His Ile Arg Ala His Tyr Ser Ala Arg Glu
 180 185 190
 Ile Glu Leu Arg Val Asp Ala Asn Gly Ala Phe Ser Pro Ala Asp Ala
 195 200 205
 Met Asp Lys Leu Asn Arg Leu Ala Glu Leu Asp Leu His Ser Ile Glu
 210 215 220
 Gln Pro Ile Arg Thr Gly Gln Trp Glu Glu Met Ala Arg Leu Ala Ala
 225 230 235 240
 Glu Ser Pro Leu Pro Ile Ala Leu Asp Glu Glu Leu Ile Gly Cys Asn
 245 250 255
 Ala Leu Glu Arg Lys Arg Glu Leu Leu Ala Ala Ile His Pro Arg Tyr
 260 265 270
 Ile Ile Leu Lys Pro Ser Leu His Gly Gly Ile Ser Gly Gly Asn Glu
 275 280 285
 Trp Ile Ala Glu Ala Glu Lys Gln His Ile Gly Trp Trp Ile Thr Ser
 290 295 300
 Ala Leu Glu Ser Asn Ile Gly Leu Asn Ala Ile Ala Gln Trp Cys Ala
 305 310 315 320
 Thr Phe Arg Asn Pro Leu Pro Gln Gly Leu Gly Thr Gly Leu Leu Phe
 325 330 335
 Thr Asp Asn Val Glu Met Pro Leu Glu Ile Arg Lys Asp Cys Leu Trp
 340 345 350
 Phe Cys Lys
 355

DRAFT DRAFT DRAFT DRAFT

<210> 9248

<211> 169

<212> PRT

<213> B.fragilis

<400> 9248

Ile Asp Met Gly Lys Glu Lys Asn Lys Ile Ala Val Leu Asn Asn Pro
 1 5 10 15
 Ile Glu His Ala Ile Lys Ile Ile Val Ala Leu Lys Cys Ala Met Thr
 20 25 30
 Pro Leu Thr Arg Asp Arg Leu Val Ala Tyr Glu Tyr Phe Ala Leu His
 35 40 45
 Leu Thr Asp Leu Asn Lys Asn Ala Glu Ser Leu Phe Pro Gln Ile Pro
 50 55 60
 Tyr Arg Ala Cys Thr Tyr Val Cys Asn His Thr Asp Ile Thr Met Ala
 65 70 75 80
 Leu Glu Ile Leu Leu Ser Arg Asp Leu Ile Lys Tyr Ala Ile Lys Asn
 85 90 95
 Asp Arg Leu Cys Tyr Thr Leu Thr Glu Ala Gly Ile Leu Phe Glu Glu
 100 105 110
 Tyr Leu Gln Asn Glu Tyr Lys Gln Arg Leu Thr Ile Met Met Val Glu
 115 120 125
 Val Val Ser Leu Leu Lys Asn Lys Ser Asp Ala Asp Ile Gln Glu Tyr
 130 135 140
 Val Glu Gln Asn Ile Gly Lys Trp Gly Ser Glu Phe Glu Arg Glu Tyr
 145 150 155 160
 Ile Leu Ile Lys Asp Val Asn His Gly
 165

<210> 9249

<211> 191

<212> PRT

<213> B.fragilis

<400> 9249

Glu Thr Ile Met Glu Pro Ile Ile Asn Ser Gln Met Pro Glu Phe Lys
 1 5 10 15
 Val Gln Ala Phe Gln Asn Gly Ser Phe Lys Thr Val Ser Ser Glu Asp
 20 25 30
 Val Lys Gly Lys Trp Ala Ile Phe Phe Tyr Pro Ala Asp Phe Thr
 35 40 45
 Phe Val Cys Pro Thr Glu Leu Val Asp Val Ala Glu Lys Tyr Glu Gln
 50 55 60
 Phe Gln Ala Met Gly Val Glu Val Tyr Ser Val Ser Thr Asp Ser His
 65 70 75 80
 Phe Val His Lys Ala Trp His Asp Ala Ser Glu Ser Ile Arg Lys Ile
 85 90 95
 Lys Tyr Pro Met Leu Ala Asp Pro Thr Gly Val Leu Ser Arg Gly Phe
 100 105 110
 Gly Val Met Ile Glu Glu Asp Gly Met Ala Tyr Arg Gly Thr Phe Leu
 115 120 125
 Val Asn Pro Glu Gly Lys Ile Lys Ile Ala Glu Ile Gln Asp Asn Asn
 130 135 140
 Ile Gly Arg Asn Ala Asp Glu Leu Leu Arg Lys Val Glu Ala Ala Gln
 145 150 155 160
 Phe Val Ala Thr His Asp Gly Glu Val Cys Pro Ala Lys Trp Lys Lys
 165 170 175
 Gly Glu Ala Thr Leu Lys Pro Ser Ile Asp Leu Val Gly Lys Ile

180

185

190

<210> 9250

<211> 400

<212> PRT

<213> B.fragilis

<400> 9250

Lys Ser Ile Ile Met Arg Gln Thr Phe Ser Leu Leu Phe Phe Leu Lys
 1 5 10 15
 Lys Arg Gln Asn His Met Asp Gly Leu His Pro Ile Met Val Arg Ile
 20 25 30
 Thr Ile Asn Gly Lys Ser Val Glu Ile Cys Thr Gly Gln Lys Ala Leu
 35 40 45
 Leu Ala Asn Trp Ser Ile Arg Leu His Gln Cys Val Gly Ser Cys Ala
 50 55 60
 Lys Gln Thr Asn Leu Phe Leu Lys Ser Ile Arg Phe Arg Leu Asn Gln
 65 70 75 80
 Ile Phe Tyr Gln Gln Ser Leu Tyr Gly Glu Thr Thr Pro Gln Lys
 85 90 95
 Ile Lys Asp Thr Phe Thr Gly Ala Asp Lys Lys Asn His Tyr Leu Leu
 100 105 110
 Ser Leu Phe Glu Leu His Asn Glu Ser Ile Arg Lys Gln Val Gly Ile
 115 120 125
 Ser Lys Ser Pro Thr Thr Phe Arg Lys Tyr Glu Thr Thr Arg Lys Tyr
 130 135 140
 Leu Gln Gly Tyr Leu Arg Ser Lys Cys Leu Glu Asp Ile Ile Leu Glu
 145 150 155 160
 Asn Ile Asn His Thr Phe Ile Cys Asp Phe Glu Val Tyr Leu Arg Val
 165 170 175
 Thr Ala His Cys Ala His Asn Thr Thr Ala Lys Phe Met Gln Phe Phe
 180 185 190
 Lys Arg Ile Ile Ile Leu Ala Leu Asn Asn Gly Tyr Ile Thr Lys Asn
 195 200 205
 Pro Phe Ser Glu Tyr Gln Ile Lys Leu Gln Lys Val Asp Arg Gly Tyr
 210 215 220
 Leu Thr Arg Glu Glu Leu Gln Arg Ile Lys Glu Lys Lys Ile Glu Ile
 225 230 235 240
 Lys Arg Leu Val Leu Val Arg Asp Leu Phe Leu Phe Ala Cys Tyr Thr
 245 250 255
 Gly Leu Ser Tyr Ile Asp Leu Lys Asn Leu Ser Lys His His Leu Tyr
 260 265 270
 Ile Ala His Asp Gly Asn Leu Trp Leu Arg Met Asn Arg Asn Lys Ser
 275 280 285
 Gly Glu Thr Ala Asn Val Tyr Leu Phe Asn Leu Pro Lys Thr Leu Ile
 290 295 300
 Ala Lys Tyr Glu Asn Pro Asp Ser Ile Tyr Leu Phe Pro Val Pro Ser
 305 310 315 320
 Asn Gln Lys Val Asn Ala Tyr Leu Lys Glu Ile Ala Asp Ile Cys Gly
 325 330 335
 Ile His Lys Asn Leu Thr Phe His Val Ala Arg His Thr Met Ala Thr
 340 345 350
 Thr Val Cys Leu Ala Asn Gly Val Pro Ile Glu Ser Leu Ser Lys Val
 355 360 365
 Leu Gly His Thr Asn Ile Lys Thr Thr Gln Leu Tyr Ala Lys Ile Thr
 370 375 380
 Asp Glu Lys Leu Ser Asn Asp Leu Ala Ile Leu Met Ser Lys Ile Asp
 385 390 395 400

 6
 5
 4
 3
 2
 1

<210> 9251
<211> 445
<212> PRT
<213> B.fragilis

<400> 9251
Glu Pro Asn Ile Asp Phe Ile Met Glu Leu Tyr Arg Ser Ile Ile Glu
1 5 10 15
Asn Leu Lys Asn Trp Lys Ala Ser Pro Asp Arg Lys Pro Leu Ile Leu
20 25 30
Lys Gly Ala Arg Gln Thr Gly Lys Thr Trp Ile Leu Glu His Phe Gly
35 40 45
Arg Thr Glu Phe Glu His Val Ala Ser Phe Asn Phe Asp Lys Asp Glu
50 55 60
Ser Leu Asn Glu Ile Phe Glu Lys Thr Lys Val Pro Glu Arg Ile Ile
65 70 75 80
Ser Gln Leu Lys Leu His Thr Asp Ser Pro Ile Leu Pro Gly Lys Thr
85 90 95
Leu Ile Ile Phe Asp Glu Ile Gln Glu Cys Asn Lys Ala Leu Asn Ala
100 105 110
Leu Lys Tyr Phe Cys Glu Asp Ala Pro Glu Tyr Ile Val Val Ala Ala
115 120 125
Gly Ser Leu Leu Gly Val Thr Leu Ser Lys Gly Asp Ser Phe Pro Val
130 135 140
Gly Lys Val Glu Phe Met Asp Leu Tyr Pro Leu Thr Phe Arg Glu Phe
145 150 155 160
Leu Lys Val Asn Asp Glu Lys Ile Tyr Gln Tyr Ile Glu Glu Ile Ser
165 170 175
Met Ile Glu Pro Leu Pro Gln Ile Val Thr Asn Lys Leu Thr Glu Tyr
180 185 190
Tyr Arg Gln Tyr Leu Val Val Gly Gly Met Pro Ala Ala Val Lys Ala
195 200 205
Phe Met Glu Asn Lys Gly Met Glu Ala Val Lys Arg Glu Gln Arg Phe
210 215 220
Ile Leu Asp Ala Tyr Ala Leu Asp Phe Ser Lys His Ala Glu Ser Lys
225 230 235 240
Asp Ile Pro Arg Ile Met Asn Ile Trp Asn Ser Ile Pro Gly Gln Leu
245 250 255
Ala Lys Glu Asn Arg Lys Phe Ile Tyr Lys Met Val Lys Pro Gly Ala
260 265 270
Arg Ala Arg Asp Tyr Glu Asp Ala Leu Leu Trp Leu Glu Ser Ala Gly
275 280 285
Leu Ile His Arg Val Phe Cys Cys Ser Lys Pro Phe Leu Pro Leu Lys
290 295 300
Ser Tyr Asp Asp Leu Ser Ala Phe Lys Ile Tyr Leu Ser Asp Ile Gly
305 310 315 320
Leu Leu Arg Glu Leu Ala Gly Leu Pro Pro Glu Ala Ile Leu Ser Gly
325 330 335
Asn Val Val Tyr Thr Glu Phe Lys Gly Ala Leu Ala Glu Asn Tyr Val
340 345 350
Leu Gln Ser Leu Val Cys Gln Ile Glu Val Leu Pro Arg Tyr Trp Thr
355 360 365
Ser Leu Gly Lys Ala Glu Val Asp Phe Ile Ile Gln Leu Asn Met Asp
370 375 380
Ile Ile Pro Ala Glu Val Lys Ser Glu Thr Arg Leu Gly Gly Lys Ser
385 390 395 400
Leu Ser Val Tyr Asp Asp Asn Tyr Arg Pro Ala Tyr Lys Ile Arg Tyr
405 410 415
Ser Leu Asn Asn Leu Lys Met Asp Gly Asn Leu Ile Asn Ile Pro Leu

420	425	430
Tyr Leu Ala Asp Trp Thr Val Lys	Leu Val Ser Ile Gln	
435	440	445

<210> 9252
<211> 337
<212> PRT
<213> B.fragilis

<400> 9252

Lys Thr Asn Met Met Thr Lys His Lys Met Asn Leu Phe Cys Gly Met			
1	5	10	15
Leu Leu Leu Ser Ala Ser Leu Phe Val Glu Lys Ala Gln Ala Met Phe			
20	25	30	
Pro Glu Arg Tyr Val Ser Glu Glu Ser Ala Ala Arg Ala Asp Thr Ile			
35	40	45	
Asn Phe Arg Leu Ala Ser Ala Gly Glu Ala Lys Arg Leu Ile Ala Ala			
50	55	60	
Lys Asp Ser Tyr Thr Ala Asn Trp Ser Pro Phe Asp Ile Ala Ala Arg			
65	70	75	80
Leu Glu Asn Pro Glu Gly Lys Arg Glu Asp Leu Val Ser Leu Ala Val			
85	90	95	
Arg Glu Val Arg Glu Trp Thr Ala Glu Glu Ala Gln Gln Ile Glu Gln			
100	105	110	
Ile Arg Lys Asn Leu Asn Asp Thr Ile Arg Lys Tyr Gly Tyr Arg Ile			
115	120	125	
Pro Phe Pro Lys Glu Ile Val Leu Val Lys Thr Thr Met Lys Asp Glu			
130	135	140	
Gly Gly Ala Gly Gly Tyr Thr Arg Ser Asn Trp Ile Ala Leu Thr Asp			
145	150	155	160
Ala Thr Phe Gln Arg Gly Thr Glu Ala Ser His Thr Arg Leu Leu Val			
165	170	175	
His Glu Thr Phe His Ile Leu Thr Arg Leu Asn Pro Gly Phe Lys Lys			
180	185	190	
Lys Leu Tyr Arg Ala Ile Asp Phe Asn Ile Leu Pro Lys Glu Ile Glu			
195	200	205	
Phe Pro Glu Asp Ile Arg Lys Ser Arg Ile Ser Asn Pro Asp Val Ser			
210	215	220	
Arg Cys Asp Ser Tyr Ala Thr Phe Thr Ile Asp Gly Lys Pro Gln Asn			
225	230	235	240
Cys Thr Met Ile Ile Tyr Thr Asn Arg Pro Tyr Thr Thr Gly Lys Phe			
245	250	255	
Tyr Gln Tyr Ile Asn Val Gly Leu Ile Pro Leu Asp Glu Ser Phe Lys			
260	265	270	
Pro Leu Arg Glu Ser Gly Lys Thr Val Ile Tyr Pro Leu Gln Lys Ala			
275	280	285	
Thr Asp Phe Phe Asp Lys Val Gly Arg Asn Thr Gly Tyr Val Ile Asp			
290	295	300	
Pro Glu Glu Val Leu Ala Asp Asn Phe Ala Ile Ala Leu Leu Asn Thr			
305	310	315	320
Pro Asn Val His Thr Pro Glu Leu Gln Lys Lys Val Gln Glu Leu Leu			
325	330	335	
Lys			

<210> 9253
<211> 405
<212> PRT
<213> B.fragilis

<400> 9253

Leu Ala Asn Met Lys Ser Ile Lys Glu Leu Tyr Arg Ile Gly Thr Gly
 1 5 10 15
 Pro Ser Ser Ser His Thr Met Gly Pro Arg Lys Ala Ala Glu Met Phe
 20 25 30
 Leu Thr Arg His Pro Glu Ala Ala Ser Phe Lys Val Thr Leu Tyr Gly
 35 40 45
 Ser Leu Ala Ala Thr Gly Lys Gly His Met Thr Asp Val Ala Ile Ile
 50 55 60
 Asp Thr Leu Lys Pro Thr Ala Pro Val Asp Ile Ile Trp Gln Pro Lys
 65 70 75 80
 Ile Phe Leu Pro Phe His Pro Asn Gly Met Asn Phe Val Ala Leu Asp
 85 90 95
 Ala Gly Gly Asn Glu Leu Glu Asn Trp Thr Val Tyr Ser Val Gly Gly
 100 105 110
 Gly Ala Leu Ala Glu Asp Asn Lys Gln Pro Ser Ile Glu Ser Pro Glu
 115 120 125
 Val Tyr Ser Met Asn Ser Met Thr Glu Ile Leu Asp Trp Cys Glu His
 130 135 140
 Thr Gly Lys Ser Tyr Trp Glu Tyr Val Lys Glu Cys Glu Asp Pro Asp
 145 150 155 160
 Ile Trp Asp Tyr Leu Lys Glu Val Trp Asp Thr Met Lys Glu Ser Val
 165 170 175
 Gln Arg Gly Leu Glu Gln Glu Gly Val Leu Pro Gly Pro Leu Asn Leu
 180 185 190
 Arg Arg Lys Ala Ser Thr Tyr Tyr Ile Arg Ala Thr Gly Tyr Lys Ala
 195 200 205
 Ser Leu Gln Ser Arg Gly Leu Val Phe Ala Tyr Ala Leu Ala Val Ser
 210 215 220
 Glu Glu Asn Ala Ser Gly Gly Lys Ile Val Thr Ala Pro Thr Cys Gly
 225 230 235 240
 Ser Cys Gly Val Met Pro Ala Val Leu Tyr His Leu Ala Lys Ser Arg
 245 250 255
 Glu Phe Ser Glu Met Arg Ile Leu Arg Ala Leu Ala Thr Ala Gly Leu
 260 265 270
 Ile Gly Asn Ile Val Lys Gln Asn Ala Ser Ile Ser Gly Ala Glu Val
 275 280 285
 Gly Cys Gln Gly Glu Val Gly Val Ala Cys Ala Met Ala Ser Ala Ala
 290 295 300
 Ala Asn Gln Leu Phe Gly Gly Ser Pro Ala Gln Ile Glu Tyr Ala Ala
 305 310 315 320
 Glu Met Gly Leu Glu His His Leu Gly Met Thr Cys Asp Pro Val Cys
 325 330 335
 Gly Leu Val Gln Ile Pro Cys Ile Glu Arg Asn Ala Tyr Ala Ala Ala
 340 345 350
 Arg Ala Leu Asp Ala Asn Leu Tyr Ser Ser Phe Thr Asp Gly Met His
 355 360 365
 Arg Val Ser Phe Asp Lys Val Ile Gln Val Met Lys Gln Thr Gly His
 370 375 380
 Asp Leu Pro Ser Leu Tyr Lys Glu Thr Ser Glu Gly Gly Leu Ala Lys
 385 390 395 400
 Asp Tyr Lys Pro Met
 405

<210> 9254

<211> 250

<212> PRT

<213> B.fragilis

<400> 9254

Thr Asn Asp Met Asp Asn Phe Lys Val Ile Tyr Ser Ile Pro Phe Leu
 1 5 10 15
 Phe Phe Ile Ile Val Ser Cys Ser Asn Ser Ser Thr Glu Met Val Ala
 20 25 30
 Lys Ser Lys Tyr Asp Ala Lys Ile Ala Glu Tyr Lys Glu Leu Asn Glu
 35 40 45
 Gln Gln Ala Ala Val Ile Glu Asp Asn Leu Glu Lys Ser Lys Ile Ile
 50 55 60
 Asn Asn Val Val Thr Glu Leu Asn Gln Ile Ala Gly Asn Thr His Ser
 65 70 75 80
 Leu Arg Val Asn Val Glu His Gly Val Gly Glu Leu Ser Gln Ala Glu
 85 90 95
 Glu Ile Asn Gln Lys Leu Gln Thr Leu Lys Lys Arg Leu Ser Ala Val
 100 105 110
 Glu Gly Lys Arg Ser Asp Gly Ser Lys Asn Leu Leu Ala Thr Met Asp
 115 120 125
 Lys Leu Lys Ser Ile Ile Glu Gln Lys Glu Ile Glu Ile Asn Asn Leu
 130 135 140
 Lys Gln Glu Ile Ala Asn Gln Gln Thr Ile Ala Asn Gln Lys Asn
 145 150 155 160
 Thr Ile Ala Ser Gln Gln Val Thr Ile Asp Ala Gln Ser Gln Glu Leu
 165 170 175
 Met Asn Lys Gln Gln Glu Met Trp Tyr Lys Leu Gly Thr Glu Leu His
 180 185 190
 Ser Val Val Glu Glu Leu Pro Lys Val Lys Gly Arg Lys Asp Lys Arg
 195 200 205
 Asn Ile Lys Asn Thr Arg Tyr Tyr Ile Leu Asn Lys Ala Lys Glu Cys
 210 215 220
 Phe Glu His Ala Ala Gln Leu Gly His Ser Leu Ala Gly Ser Lys Ala
 225 230 235 240
 Arg Gln Val Glu Gly Glu Met Ser Arg Leu
 245 250

<210> 9255

<211> 592
 <212> PRT
 <213> B.fragilis

<400> 9255

Leu Thr Ile Ile Tyr Ile Val Asn Leu Thr Gly Phe Tyr Met Lys Lys
 1 5 10 15
 Thr Ser Leu Phe Leu Ser Phe Phe Ile Ala Leu Phe Leu Phe Ser Ala
 20 25 30
 Cys Thr Asp Asp Thr Glu Gln Cys Leu Tyr Ser Pro Lys Val Phe Asp
 35 40 45
 Thr Gly Asn Leu Leu Ser Asn Arg Val Lys Glu Glu Phe Leu Asn Phe
 50 55 60
 Asp Tyr Pro Ala Gly Ile Val Pro Ile Leu Phe Ala Val Asp Ser Ile
 65 70 75 80
 Glu Ala Ile Gln Met Gly Ala Tyr Ala Asp Glu Cys Phe Asn Asp Leu
 85 90 95
 Val Asp Ser Ile Ser Glu Ser Arg Asp Phe Lys His Arg Gly Met Leu
 100 105 110
 Val Leu Val Ser Lys Asn Pro Lys Leu Ile Gln Ile Arg Leu Gly Asn
 115 120 125
 Arg Tyr Arg Val Tyr Cys Asn Met Thr Gly Ala Thr Ser Gly Leu Asp
 130 135 140

Tyr Leu Asp Leu Gln Lys Gln Ile Gln Glu Arg Gly Val Glu Glu Thr
 145 150 155 160
 Leu Pro Leu Phe Leu Gln Asn Thr Ser Val Arg Ile Gln Glu Leu Asn
 165 170 175
 Glu Leu Pro Ser Tyr Lys Lys Tyr Arg Ile Asn Ser Ala Ile Ser Val
 180 185 190
 Ile Ser Thr Cys Leu Glu Tyr Ile Gly Thr Pro Ser Glu Asn Phe Tyr
 195 200 205
 Gly Lys Cys Val Leu Thr Pro Ile Leu Lys Ile Thr Ser Phe Gly Tyr
 210 215 220
 Tyr Ile Phe Lys Ser Trp Leu Leu Thr Phe Met Phe Val Cys Leu Ile
 225 230 235 240
 Met Leu Leu Cys Arg Trp Met Ile Phe Leu Leu Val Lys Arg Leu Leu
 245 250 255
 Gly Glu Asn Val Ile Ala Leu Met Trp Thr Gln Lys Ile Ile Asn Trp
 260 265 270
 Gly Leu Gly Leu Leu Phe Ser Ile Ser Ala Ala Ala Ser Ala Ile Ile
 275 280 285
 Leu Ser Ser Gly Arg Met Glu Asp Ala Ile Ala Leu Gln Ala Ile Gly
 290 295 300
 Ile Pro Phe Met Glu Asn Phe Gln Ile Ala Ala Ala Asp Tyr Val Leu
 305 310 315 320
 Lys Thr Ser Phe Val Ala Ala Phe Phe Phe Val Leu Met Tyr Ala Leu
 325 330 335
 Lys Arg Asn Ile Val Ser Asp Ile Phe Leu Met Ser Leu Leu Glu Pro
 340 345 350
 Ala Lys Gln Gln Glu Val Tyr Arg Ser Leu Ser Asp Ala Gln Lys Thr
 355 360 365
 Ala Leu Val Ile Gly His Glu Ala Asp Leu Asn Glu Val Glu Thr Ser
 370 375 380
 Ser Glu Pro Tyr Ser Glu Leu Phe Thr Ser Arg Val Ser Lys Gln Glu
 385 390 395 400
 Thr Val Thr Ile Val Ser Leu Ala Ile Ala Ala Leu Phe Leu Ile Pro
 405 410 415
 Arg Pro Leu Ile Ile Met Gly Ile Ala Leu Thr Ile Tyr Pro Leu Val
 420 425 430
 Gly Gln Cys Val Lys Ile Tyr His Val Val Ser Asn His Thr Leu Pro
 435 440 445
 Ala Gln Ile Lys Gly Asp Arg Arg Arg Ala Leu Ile Thr Asn Leu Leu
 450 455 460
 Ile Ile Phe Ala Ile Ala Phe Ile Thr Val Leu Ile Gly Leu Phe Phe
 465 470 475 480
 Asn Pro Met Pro Asp Lys Lys Glu Ile Asp Arg Asn Glu Ile Lys Met
 485 490 495
 Glu Leu Ile Ala Pro Asp Arg Leu Glu Gly Asn Tyr Thr Val Ser Lys
 500 505 510
 Ser Ile Val Gly Gln Ile Gln Val Ser Ser Gly Ile Ile Lys Lys Val
 515 520 525
 Lys Asp Gly Thr Phe Gln Leu Leu Ile Thr Gly Lys Ser Ser Pro Lys
 530 535 540
 Val Tyr Lys Leu Asp Phe Asn Ser Asp Lys Met Ile Phe Val Ser Gly
 545 550 555 560
 Glu Leu Gly Asn Gly Ala Ile His Tyr Asp Lys Asp Leu Asp Lys Ile
 565 570 575
 Lys Ile Val Phe Asn Ile Asn Glu Gln Thr Thr Trp Thr Ile Ser Lys
 580 585 590

<210> 9256

<211> 512

<212> PRT
 <213> B.fragilis

<400> 9256

Leu Thr Thr Met Ser Asn Arg Ile Val Ser Arg Ser Leu Met Gly Ala
 1 5 10 15
 Leu Cys Ser Ala Cys Phe Thr Thr Ala Ser Ala Gln Glu Arg Pro Asn
 20 25 30
 Ile Ile Val Phe Leu Val Asp Asp Met Gly Leu Met Asp Thr Ser Val
 35 40 45
 Pro Phe Val Thr Asp Glu Asn Gly Asn Ala Gln Arg Gln Pro Leu Asn
 50 55 60
 Asp Trp Tyr Arg Thr Pro Asn Met Glu Arg Leu Ala Asn Gln Gly Ile
 65 70 75 80
 Arg Phe Ser Thr Phe Tyr Ala Gln Ser Val Ser Ser Pro Ser Arg Ala
 85 90 95
 Ser Ile Met Thr Gly Gln Asn Ala Ala Arg His Arg Thr Thr Asn Trp
 100 105 110
 Ile Asn Ala Glu Ser Asn Asn Arg Thr Pro Tyr Gly Pro Phe Asp Trp
 115 120 125
 Asn Trp Lys Gly Leu Thr His Gln Asp Met Ile Tyr Pro Tyr Leu Leu
 130 135 140
 Gln Gln Ala Gly Tyr Gln Thr Ile His Val Gly Lys Ala His Phe Gly
 145 150 155 160
 Cys Leu Lys Ser Glu Gly Glu Asn Pro Ala Asn Leu Gly Phe Asp Val
 165 170 175
 Asn Ile Ala Gly Ser Ala Ile Gly His Pro Gly Ser Tyr His Gly Glu
 180 185 190
 Asn Gly Tyr Gly Trp Ile Lys Gly Gln Arg Ala Arg Ala Val Pro Asp
 195 200 205
 Leu Glu Gln Tyr His Lys Thr His Thr Phe Leu Ser Asp Ala Leu Thr
 210 215 220
 Leu Glu Ala Asp Lys Glu Ile Glu Lys Ala Val Ala Glu Lys Lys Pro
 225 230 235 240
 Phe Tyr Leu Asn Met Ala His Tyr Ala Val His Ser Pro Phe Glu Thr
 245 250 255
 Asp Glu Arg Phe Ile Ser His Tyr Thr Asp Pro Asn Lys Ser Gln Gln
 260 265 270
 Ala Arg Ala Phe Ala Thr Leu Ile Glu Gly Met Asp Lys Ser Leu Gly
 275 280 285
 Asp Ile Leu Asp Lys Leu Glu Asp Met Gly Ile Ala Glu Asn Thr Leu
 290 295 300
 Ile Ile Phe Leu Gly Asp Asn Gly Gly Asp Ala Pro Leu Gly Asp Ala
 305 310 315 320
 Ala Asp Tyr Gly Ser Ser Ala Pro Phe Lys Gly Lys Lys Gly Ser Glu
 325 330 335
 Tyr Glu Gly Gly Val Arg Val Pro Phe Ile Val Ser Trp Ala His Pro
 340 345 350
 Asn Pro Asn Asn Lys Phe Gln Lys Ala Tyr Pro Ile Ala Arg Asn Ala
 355 360 365
 Ile Gln Thr Gln Met Gly Thr Val Met Asp Ile Tyr Pro Thr Val Leu
 370 375 380
 Ser Val Ala Gly Val Lys Pro Ala Pro Asn His Ile Leu Asp Gly Ala
 385 390 395 400
 Asp Leu Arg Lys Leu Leu Lys Gly Lys Arg Asp Lys Lys His Arg Asp
 405 410 415
 Asp Phe Leu Met His Phe Pro His Glu His Arg Gly Ser Tyr Phe Thr
 420 425 430
 Ser Tyr Arg Lys Gly Asp Trp Lys Phe Ile Tyr Tyr Tyr Asn Pro Gln

435	440	445
Thr Pro Glu Ala Pro Thr Tyr Lys Leu Phe Asn Leu Ser Glu Asp Pro		
450	455	460
Tyr Glu Lys Asn Asp Leu Ser Lys Thr Asn Gln Gln Lys Ala Lys Glu		
465	470	475
Leu Phe Arg Leu Met Val Gln Arg Leu Glu Lys Glu Gln Ala Leu Tyr		
485	490	495
Pro Val Asp Ala Asp Lys Asn Val Leu Ser Pro Ile Phe Val Ala Glu		
500	505	510

<210> 9257

<211> 336

<212> PRT

<213> B.fragilis

<400> 9257

Phe Asn Arg Ile Met Glu Glu Ile Lys Ile Ala Gly Ala Ala Leu Pro		
1	5	10
Ala Met Pro Trp Glu Glu Arg Pro Ala Gly Cys Lys Asp Val Val Trp		
20	25	30
Arg Cys Ser Ala Asn Pro Ile Ile Pro Arg Asp Leu Leu Pro Thr Ser		
35	40	45
Asn Ser Ile Phe Asn Ser Ala Val Val Pro Phe Lys Asp Gly Tyr Ala		
50	55	60
Gly Val Phe Arg Cys Asp Asp Thr Asn Arg Arg Met Arg Leu His Val		
65	70	75
Gly Phe Ser Lys Asp Ala Val His Trp Asp Ile Asn Glu Glu Pro Leu		
85	90	95
Lys Phe Gln Cys Asp Asp Ala Glu Val Gly Thr Trp Val Tyr Gly Tyr		
100	105	110
Asp Pro Arg Val Cys Phe Ile Glu Asp Arg Tyr Tyr Val Thr Trp Cys		
115	120	125
Asn Gly Tyr His Gly Pro Thr Ile Gly Val Ala Tyr Thr Tyr Asp Phe		
130	135	140
Val Thr Phe His Gln Leu Glu Asn Ala Phe Ile Pro Phe Asn Arg Asn		
145	150	155
Gly Val Leu Phe Pro Arg Lys Ile Asn Gly Arg Phe Ala Met Leu Ser		
165	170	175
Arg Pro Ser Asp Asn Gly His Thr Pro Phe Gly Asp Ile Phe Tyr Ser		
180	185	190
Glu Ser Pro Asp Met Glu Phe Trp Gly Arg His Arg His Val Met Ser		
195	200	205
Pro Ala Pro Phe Glu Asp Ser Ala Trp Gln Cys Thr Lys Ile Gly Ala		
210	215	220
Gly Pro Ile Pro Ile Glu Thr Ser Glu Gly Trp Leu Leu Ile Tyr His		
225	230	235
Gly Val Leu Ala Ser Cys Asn Gly Phe Val Tyr Ser Phe Gly Ser Ala		
245	250	255
Leu Leu Asp Ile Asp Gln Pro Trp Lys Val Lys Phe Arg Ser Gly Pro		
260	265	270
Tyr Leu Ile Ser Pro Gln Lys Asp Tyr Glu Cys Met Gly Asp Val Pro		
275	280	285
Asn Val Cys Phe Pro Cys Ala Ala Leu His Asp Ser Glu Thr Gly Arg		
290	295	300
Ile Ala Ile Tyr Tyr Gly Cys Ala Asp Thr Val Thr Gly Leu Ala Phe		
305	310	315
Gly Tyr Ile Pro Glu Ile Ile Glu Phe Thr Lys Arg Thr Ser Ile Ile		
325	330	335

<210> 9258
<211> 679
<212> PRT
<213> B.fragilis

<400> 9258
Ile Ser Leu Ile Leu Phe Pro Ile Glu Phe Cys Asn Phe Val Ala Leu
1 5 10 15
Glu Asn Tyr Tyr Leu Cys Ile Ile Asn Leu Ile Val Asp Trp Ile Met
20 25 30
Gly His Cys Lys Cys Glu Met Asn Ala Asn Val Arg Val Glu Ser Cys
35 40 45
Gln Glu Ala Asn Gly Phe Ile Lys Glu Tyr Trp Lys Val Ile Leu Ser
50 55 60
Leu Leu Met Leu Ile Ala Gly Ala Ile Met Asn Gln Leu Asp Val Ala
65 70 75 80
Phe Phe Arg Asp Asn Thr Ile Ser Leu Val Trp Tyr Ile Leu Ala Tyr
85 90 95
Leu Pro Val Gly Leu Pro Val Ile Lys Glu Ala Trp Glu Ser Ile Leu
100 105 110
Gln Lys Asp Phe Phe Ser Glu Phe Thr Leu Met Ser Val Ala Thr Leu
115 120 125
Gly Ala Phe Tyr Ile Gly Glu Tyr Pro Glu Gly Val Ala Val Met Leu
130 135 140
Phe Tyr Ser Val Gly Glu Leu Phe Gln Asp Lys Ala Ile Asp Lys Ala
145 150 155 160
Lys Arg Asn Ile Ser Ala Leu Leu Asp Val Arg Pro Glu Lys Ala Val
165 170 175
Val Val Arg Ser Asn Glu Ile Val Thr Val Asp Pro Arg Ser Val Leu
180 185 190
Ile Asn Glu Ile Ile Glu Ile Lys Ala Gly Glu Arg Val Pro Leu Asp
195 200 205
Gly Val Met Leu Asp Glu Val Ala Ala Phe Asn Thr Ala Ala Leu Thr
210 215 220
Gly Glu Ser Val Pro Arg Asp Ile Ser Arg Gly Glu Glu Val Leu Ala
225 230 235 240
Gly Met Ile Val Thr Asp Lys Val Ile Arg Met Lys Val Thr Lys Pro
245 250 255
Phe Asp Lys Ser Ala Leu Ala Arg Ile Leu Glu Leu Val Glu Asp Ala
260 265 270
Ser Glu Arg Lys Ala Pro Ala Glu Leu Phe Ile Arg Lys Phe Ala Arg
275 280 285
Val Tyr Thr Pro Ile Val Ile Gly Phe Ala Phe Leu Ile Val Leu Ile
290 295 300
Pro Tyr Ile Tyr Ser Phe Ile Asn Pro Leu Phe Gly Phe Val Phe Asn
305 310 315 320
Asp Trp Leu Tyr Lys Ala Leu Val Phe Leu Val Ile Ser Cys Pro Cys
325 330 335
Ala Leu Val Ile Ser Ile Pro Leu Gly Tyr Phe Gly Gly Ile Gly Ala
340 345 350
Ala Ser Arg Leu Gly Ile Leu Phe Lys Gly Gly Asn Tyr Leu Asp Ala
355 360 365
Ile Thr Arg Val Asn Thr Val Val Phe Asp Lys Thr Gly Thr Leu Thr
370 375 380
Lys Gly Val Phe Glu Val Glu Ser Cys Arg Val Val Pro Gly Thr Ser
385 390 395 400
Glu Glu Asp Leu Leu Arg Val Val Ala Ser Ile Glu Lys Asn Ser Asn
405 410 415
His Pro Ile Ala Arg Ala Ile Val Ala Tyr Ala Gln Asp Lys Gly Ile

5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160 165 170 175 180 185 190 195 200 205 210 215 220 225 230 235 240 245 250 255 260 265 270 275 280 285 290 295 300 305 310 315 320 325 330 335 340 345 350 355 360 365 370 375 380 385 390 395 400 405 410 415

420	425	430
Asp Leu Ile Val Thr Lys Asn Ile Glu Glu Ile Ala Gly Tyr Gly Leu		
435	440	445
Met Thr Glu Ile Asp Gly Lys Arg Val Leu Val Gly Asn Thr Arg Leu		
450	455	460
Leu Ser Lys Tyr Ser Ile Glu Phe Pro Lys Ala Val Phe Ser Ile Thr		
465	470	475
Glu Thr Thr Val Val Cys Ala Val Gly Asp Lys Tyr Ile Gly Cys Ile		
485	490	495
Ile Leu Ser Asp Val Leu Lys Asp Asp Ala Ser Asp Thr Val Lys Ala		
500	505	510
Leu Lys Glu Leu Asn Ile Lys Asn Ile Gln Ile Leu Ser Gly Asp Lys		
515	520	525
Gln Ser Ile Val Thr Ile Phe Ala Asn Lys Leu Gly Ile Thr Gln Ala		
530	535	540
Tyr Gly Asp Leu Leu Pro Glu Gly Lys Val Glu His Ile Glu Arg Leu		
545	550	555
Lys Glu Glu Lys Gly Asn Gln Ile Ala Phe Val Gly Asp Gly Met Asn		
565	570	575
Asp Ala Pro Val Leu Ala Leu Ser Asp Val Gly Ile Ala Met Gly Gly		
580	585	590
Leu Gly Ser Asp Ala Ala Ile Glu Thr Ala Asp Val Val Ile Gln Thr		
595	600	605
Asp Gln Pro Ser Lys Val Ala Thr Ala Ile Lys Val Gly Arg Cys Thr		
610	615	620
Arg Arg Ile Ile Trp Gln Asn Val Leu Ala Phe Gly Val Lys Leu		
625	630	635
Leu Val Leu Ile Leu Gly Ala Ser Gly Ile Ala Thr Leu Trp Glu Ala		
645	650	655
Val Phe Ala Asp Val Gly Val Thr Leu Ile Ala Ile Met Asn Ala Val		
660	665	670
Arg Ile Gln Lys Met Ile Lys		
675		

<210> 9259

<211> 171

<212> PRT

<213> B.fragilis

<400> 9259

Lys Lys Thr Leu Ile Met Lys Phe Leu Lys Phe Ser Leu Leu Thr Ala		
1	5	10
Val Leu Leu Ser Val Val Phe Ala Phe Ser Ser Cys Gly Asp Asp Asp		
20	25	30
Asp Thr Gly Tyr Leu Pro Pro Ser Gln Ala Ile Gln Asp Ala Leu Lys		
35	40	45
Lys Leu Tyr Pro Asn Ala Thr Ala Ile Lys Trp Glu Gln Lys Gly Val		
50	55	60
Tyr Tyr Val Ala Asp Cys Gln Ala Asp Gly Arg Glu Lys Glu Val Trp		
65	70	75
Phe Asp Ala Asn Ala Asn Trp Leu Met Thr Glu Thr Glu Leu Asn Ser		
85	90	95
Ile Asn Asn Leu Pro Pro Ala Val Leu Thr Ala Phe Met Glu Ser Ser		
100	105	110
Tyr Asn Asn Trp Val Val Asp Asp Val Val Ile Leu Glu Tyr Pro Asn		
115	120	125
Glu Pro Ser Thr Glu Phe Val Val Thr Val Glu Gln Gly Lys Lys Val		
130	135	140
Asp Leu Tyr Phe Ser Glu Gly Gly Leu Leu His Glu Lys Asp Val		

145	150	155	
Thr Asn Gly Asp Asp	Thr His Trp Pro Arg Ile		160
165		170	

<210> 9260

<211> 422

<212> PRT

<213> B.fragilis

<400> 9260

Asn Arg Met Met Lys Glu Asp Glu Lys Trp Ile Lys Ala Phe Lys Asp			
1	5	10	15
Lys Leu Glu Asp Tyr Ser Glu Pro Met Pro Ala Ser Gly Trp Glu Arg			
20	25	30	
Leu Glu Arg Glu Leu Met Pro Val Thr Glu Lys Arg Ile Tyr Pro Tyr			
35	40	45	
Arg Arg Trp Ala Val Ala Ala Ala Val Val Leu Val Leu Thr Thr			
50	55	60	
Ala Val Ser Leu Tyr Phe Leu Asn Ser Pro Val Ala Asp Glu Ile Arg			
65	70	75	80
Tyr Ala Thr Ala Pro Ser Leu Ala Val Asn Pro Asp Val Leu Pro Glu			
85	90	95	
Pro Ala Leu Pro Asp Val Gln Val Ala Val Ser Glu Pro Val Lys Pro			
100	105	110	
Val Gly Thr Thr Ser Ile Asn Pro Val Ser Gly Tyr Leu Ala Lys Asn			
115	120	125	
Thr Asp Pro Val Ile Val Pro Glu Val Ser Ser Leu Val Glu Lys Arg			
130	135	140	
Pro Glu Ala Val Thr Glu Glu Lys Arg Ser Glu Pro Gln Gln Glu Ala			
145	150	155	160
Ile Ala Ala Ile Glu Lys Lys Glu Ser Ala Thr Ala Gln Pro Pro Lys			
165	170	175	
Arg Lys Glu Ala Arg Arg Pro Ser Gly Lys Asp Lys Tyr Gln Leu Pro			
180	185	190	
Ile Gly Asp Ser Ser Ala Lys Arg Gly Gly Lys Trp Ser Met Gly Val			
195	200	205	
Gly Ile Gly Asn Gly Gly Leu Pro Thr Asn Gly Ser Glu Asn Phe			
210	215	220	
Ala Pro Arg Pro Met Thr Asn Arg Val Asp Leu Met Thr Ile Met Asn			
225	230	235	240
Gly Ala Val Ser Ile Pro Ala Asp Gln Glu Val Ile Phe Glu Glu Gly			
245	250	255	
Val Pro Tyr Leu Lys Ser Asn Thr Thr Ala Val Val Asp Tyr Glu His			
260	265	270	
His Gln Pro Val Ser Phe Gly Leu Ser Val Arg Lys Ser Leu Pro Lys			
275	280	285	
Gly Phe Ser Val Glu Thr Gly Leu Thr Tyr Thr Leu Leu Ser Ser Asp			
290	295	300	
Ile Lys Arg Gln Gly Asp Thr Lys Met Gln Ser Gln Lys Leu His Tyr			
305	310	315	320
Ile Gly Ile Pro Val Arg Gly Asn Trp Asn Phe Leu Glu Lys Lys Tyr			
325	330	335	
Phe Thr Leu Tyr Val Ser Ala Gly Gly Met Val Glu Lys Cys Val Tyr			
340	345	350	
Gly Lys Leu Ala Asp Asp Lys Val Asn Val Lys Pro Leu Gln Phe Ser			
355	360	365	
Val Ala Gly Ala Val Gly Ala Gln Phe Asn Ala Thr Asp His Val Gly			
370	375	380	
Leu Tyr Val Glu Pro Gly Val Ser Tyr Phe Phe Asp Asp Gly Ser Lys			

385	390	395	400
Val Gln Thr Ile Arg Lys Glu Arg Pro Cys Asn Phe Asn Leu Gln Ala			
405	410	415	
Gly Leu Arg Phe Thr Tyr			
420			

<210> 9261

<211> 518

<212> PRT

<213> B.fragilis

<400> 9261

Asn Gln Ser Ile Met Lys Lys Ile Leu Asn Ile Val Leu Ala Ala			
1	5	10	15
Ala Val Thr Pro Phe Leu Cys Cys Cys Thr Asp Asn Phe Glu Glu Tyr			
20	25	30	
Asn Thr Asn Pro Tyr Glu Pro His Ser Leu Asn Pro Pro Met Leu Phe			
35	40	45	
Ala Thr Met Ile Thr Thr Gly Ile Asn Val Gln Gln Asn Asp Asn Gln			
50	55	60	
Met Ile Asp Gln Met Val Ala Gly Pro Phe Ser Gly Tyr Leu Thr Met			
65	70	75	80
Ala Asn Ser Trp Gly Gly Ser Asn Phe Asn Thr Phe Asn Gln Thr Glu			
85	90	95	
Ser Trp Asn Gln Ile Pro Phe Asn Thr Pro Phe Glu Lys Phe Tyr Cys			
100	105	110	
Asn Tyr Phe Lys Leu Glu Thr Ala Thr Gly Gly Lys Gly His Tyr Trp			
115	120	125	
Ala Met Ala Lys Leu Leu Arg Val Asn Thr Met Leu Arg Val Thr Asp			
130	135	140	
Cys Tyr Gly Pro Ile Pro Tyr Ser Gln Val Ala Asn Gly Lys Thr Ala			
145	150	155	160
Val Ala Tyr Asp Ser Gln Glu Asp Val Tyr Lys His Met Phe Glu Asp			
165	170	175	
Leu Asp Tyr Ala Ile Gln Met Leu Gly Glu Phe Val Asp Glu Val Gly			
180	185	190	
Gly Leu Lys Pro Leu Glu Gly Tyr Asp Pro Val Tyr Asn Gly Asp Tyr			
195	200	205	
Asn Lys Trp Met Arg Phe Ala Asn Ser Leu Lys Leu Arg Leu Ala Val			
210	215	220	
Arg Ile Ser Asn Val Ser Pro Glu Leu Ala Arg Thr Lys Ala Glu Glu			
225	230	235	240
Ala Val Lys Ser Thr Arg Gly Leu Ile Asp Thr Asn Asp Asn Ala			
245	250	255	
Tyr Val Gly Val Gly Ala Glu Pro Asn Pro Leu Trp Leu Val Ala Ser			
260	265	270	
Ser Trp Gly Glu Ile Arg Ile Asn Ala Thr Ile Ala Ser Tyr Met Lys			
275	280	285	
Gly Tyr Ser Asp Pro Arg Ser Ala Val Tyr Phe Thr Thr Ser Lys Leu			
290	295	300	
Gly Gly Asp Ser Pro Tyr Met Gly Met Arg Ser Gly Leu Glu Gly Val			
305	310	315	320
Lys Pro Ala Thr Tyr Ser Gly Tyr Ser Met Pro Asn Tyr Glu Gln Lys			
325	330	335	
Asp Asp Met Leu Met Phe Cys Ala Ala Glu Thr Ala Phe Leu Arg Ala			
340	345	350	
Glu Gly Ala Leu Arg Gly Trp Asp Met Gly Gly Ser Ala Arg Asp Phe			
355	360	365	
Tyr Glu Gln Gly Val Lys Leu Ser Phe Asp Gln Arg Lys Val Ser Gly			

370	375	380
Ala Asp Glu Tyr Leu Ala Asn Ala Val Ala Val Pro Glu Pro Phe Val		
385	390	395
Asp Pro Val Asn Pro Ala Lys Cys Asn Tyr Thr Pro Lys Thr Lys Ile		400
405	410	415
Thr Ile Ala Trp Asn Glu Gly Ala Ser Thr Glu Glu Lys Leu Glu Arg		
420	425	430
Ile Ile Thr Gln Lys Trp Ile Ala Asn Phe Pro Leu Gly Phe Glu Gly		
435	440	445
Trp Ala Asp Tyr Arg Arg Thr Gly Tyr Pro Glu Val Phe Pro Ser Val		
450	455	460
Ser Asn Leu Ser Asn Gly Val Ile Asp Thr Asn Arg Gln Leu Arg Arg		
465	470	475
Leu Pro Phe Pro Leu Ser Glu Lys Gln Gly Asn Ser Ala Asn Val Ser		480
485	490	495
Ala Ala Val Ser Met Leu Gly Gly Pro Asp Thr Gly Ala Thr Asp Leu		
500	505	510
Trp Trp Ala Lys Lys Asn		
515		

<210> 9262

<211> 148

<212> PRT

<213> B.fragilis

<400> 9262

Ile Glu Lys Met Lys Thr Val Lys Leu Ile Thr Cys Asp Asp Ala Phe		
1	5	10
Gln Ala His Ile Ile Gln Gly Ala Leu Ala Asn Glu Gly Ile Asp Ser		15
20	25	30
Leu Leu His Asn Glu Asn Met Ser Thr Leu Leu Arg Gly Phe Val His		
35	40	45
Asp Ile Ser Arg Val Asp Val Leu Val Ala Asp Cys Asp Tyr Glu Ala		
50	55	60
Ala Ile Gln Leu Leu Lys Gln Asn Gln Met Ile Pro Glu Glu Gln Lys		
65	70	75
Phe Cys Pro Phe Cys Gly Ser Asp Arg Ile Lys Phe Val Leu Lys Lys		80
85	90	95
Glu His Arg Val Arg Ala Val Ser Ala Ala Ile Val Ser Met Leu Ala		
100	105	110
Thr Val Pro Pro Gly Gly Asn His Trp Glu Tyr Ile Cys Asp His Cys		
115	120	125
Gly Lys Ala Phe Glu Lys Pro Val Thr Glu Phe Asn Pro Ser Ala Leu		
130	135	140
Glu Glu Lys Asp		
145		

<210> 9263

<211> 380

<212> PRT

<213> B.fragilis

<400> 9263

Arg Tyr Gly Ile Tyr Arg Lys Glu Leu Leu Ile Arg Lys Ser Ile Asp		
1	5	10
Leu Pro Thr Leu Pro Cys Pro Lys Lys Arg Tyr Thr Met Lys Val Lys		15
20	25	30
Leu Leu Phe Leu Val Phe Val Leu Tyr Ala Cys Gly Thr Lys Thr Val		
35	40	45

Ser Glu Glu Lys Ser Tyr Asp Arg Ile Thr Met Thr Thr Tyr Glu Asn
 50 55 60
 Lys Tyr Asp Glu Asn Asn Arg Leu Ser Glu Val Gln Leu Thr Arg Thr
 65 70 75 80
 Ser His His Arg Tyr Glu Glu Asp Ser Glu Thr Ile Asp Leu Ile Asp
 85 90 95
 Asp Lys Ser Thr Tyr Tyr Thr Tyr Ile Asn Asn Glu Glu Phe Thr
 100 105 110
 Val Arg Arg Lys Ser Lys Arg Ser Gly Asn Ile Lys Ile Met Arg Tyr
 115 120 125
 Ala Pro Gln Arg Glu Glu Val Leu Thr Leu Asn Ala Gln Gly Asp Thr
 130 135 140
 Ile Asp Tyr Leu Leu Gln Lys Tyr Tyr Asp Lys Ser Lys Leu Lys Leu
 145 150 155 160
 Val Tyr Val Arg Asn Ile Asn Asn Asp Tyr Val Leu His Glu Asp Asn
 165 170 175
 Asp Tyr Glu Glu Asn Glu Tyr Asp Gly Asn Gly Asn Leu Thr Lys
 180 185 190
 Arg Val Gln Tyr Tyr Phe Asp Ile Gly Lys Lys Arg Thr Thr Tyr Phe
 195 200 205
 Phe Arg Gly Leu Ser Tyr Glu Glu Ala Lys Lys Arg Ile Pro Arg Thr
 210 215 220
 Asp Glu Asp Tyr Asp Ile Val Cys Asp Ile Glu Lys Met Ala Gly Asp
 225 230 235 240
 Thr Leu Ile Arg Lys Cys Ile Lys Asn Gly Ile Val Ser Ser Ile Asn
 245 250 255
 Lys Thr Ile Val Asp Glu Lys Gly Lys Lys Glu Phe Ile Phe Asp Ala
 260 265 270
 Asp Met Lys Phe Thr Gly Ser Phe Thr Glu Phe Lys Ser Asp Gly Phe
 275 280 285
 Asp Ile His Val Asp Arg Ile Val Leu Asp Asp Cys Thr Asp Ile Asp
 290 295 300
 Ser Thr Tyr Tyr Lys Asn Gly Lys Glu Val Arg Cys Val Tyr Leu Ser
 305 310 315 320
 Asp Thr Ser Lys Arg Ile Val Leu Ser Lys Tyr Asp Lys Trp Gly Asn
 325 330 335
 Met Val Glu Arg Val Glu Lys Thr Lys Tyr Phe Tyr Ser Gln Asp Gly
 340 345 350
 Glu Ala Leu Ile Asn Glu Met Leu Gln Val Val Arg Glu Asn Glu Lys
 355 360 365
 Lys Lys Glu Ser Arg Lys Arg Leu Lys Ile Ser Lys
 370 375 380

<210> 9264

<211> 90

<212> PRT

<213> B.fragilis

<400> 9264

Leu Ile Asn Phe Asp Asn Val Cys Cys Ser Leu Lys Ser Asn Val Gln
 1 5 10 15
 Ala Asn Gly Leu Tyr Lys Arg Pro Gln Leu Leu His Leu Gln Leu Asp
 20 25 30
 Thr Gly Gly Val Val Met Thr Ser Ala Gln Val Ala Glu Gln Ile Lys
 35 40 45
 Ser Ile Phe Pro Leu Phe Tyr Ile Gln Gly Arg Ser Ser Arg Val Ile
 50 55 60
 Ile Asp Leu Arg Cys Ser Ser Phe Phe Ile Met Gln Thr Asp Met Leu
 65 70 75 80

Tyr Thr Lys Lys Arg Lys Ser Leu Asn Tyr
 85 90

<210> 9265

<211> 189

<212> PRT

<213> B.fragilis

<400> 9265

Gly Lys His Val Phe Arg Arg Met Asn Glu Leu Glu Leu Ser Glu Arg
 1 5 10 15
 Cys Arg Gln Gly Asp Asn Arg Ala Arg Lys Glu Leu Tyr Glu Gln Tyr
 20 25 30
 Ala Gly Arg Met Leu Gly Val Cys Leu Arg Tyr Ala Gly Asp Arg Asp
 35 40 45
 Met Ala Gln Asp Leu Val His Asp Gly Phe Leu Lys Ile Phe Asp Ser
 50 55 60
 Phe Asp Lys Phe Thr Trp Arg Gly Glu Gly Ser Leu Arg Ala Trp Met
 65 70 75 80
 Glu Arg Val Met Val Asn Thr Ala Leu Gln Phe Leu Arg Lys Asn Asp
 85 90 95
 Val Met Asn Gln Thr Thr Ala Leu Asp Glu Val Pro Glu Thr Tyr Glu
 100 105 110
 Glu Pro Asp Ala Ser Ala Val Glu Ala Ile Pro Gln Lys Val Leu Met
 115 120 125
 Gln Phe Ile Asn Glu Leu Pro Ala Gly Tyr Arg Thr Val Phe Asn Leu
 130 135 140
 Tyr Thr Phe Glu Asp Lys Ser His Lys Glu Ile Ala Gln Met Leu Gly
 145 150 155 160
 Ile Asn Glu Lys Ser Ser Ala Ser Gln Leu Phe Arg Ala Lys Ser Val
 165 170 175
 Leu Ala Lys Lys Val Lys Glu Trp Leu Val Thr Asn Gly
 180 185

<210> 9266

<211> 241

<212> PRT

<213> B.fragilis

<400> 9266

Met Ile Asn Val His Ser Tyr Glu Ser Met Gly Thr Phe Asp Gly Pro
 1 5 10 15
 Gly Leu Arg Leu Val Val Phe Leu Gln Gly Cys Asn Phe Arg Cys Leu
 20 25 30
 Tyr Cys Ala Asn Pro Asp Thr Ile Glu Ala Lys Gly Gly Thr Ala Thr
 35 40 45
 Asp Pro Glu Glu Ile Val Arg Met Ala Val Ser Gln Lys Ala Phe Phe
 50 55 60
 Gly Lys Lys Gly Gly Ile Thr Phe Ser Gly Gly Glu Pro Thr Phe Gln
 65 70 75 80
 Ala Lys Ser Leu Ile Pro Leu Phe Lys Arg Leu Lys Glu Ala Gly Ile
 85 90 95
 His Ile Cys Leu Asp Thr Asn Gly Gly Leu Trp Asn Asn Asp Val Glu
 100 105 110
 Glu Leu Leu Glu Leu Thr Asp Leu Val Leu Leu Asp Ile Lys Glu Phe
 115 120 125
 Asn Pro Glu His His Gln Ser Leu Thr Gly Arg Ser Asn Glu Gln Thr
 130 135 140
 Leu Lys Thr Ala Ala Trp Leu Glu Thr Asn His Lys Pro Phe Trp Leu

145	150	155	160
Arg Tyr Val Leu Val Pro Gly Tyr Ser Asp Phe Glu Asp Asp Ile Arg			
165	170	175	
Gln Leu Gly Glu His Leu Gly Thr Tyr Gln Met Ile Gln Arg Val Glu			
180	185	190	
Ile Leu Pro Tyr His Thr Leu Gly Val His Lys Tyr Glu Ala Met Asn			
195	200	205	
Lys Glu Tyr Met Leu Lys Gly Val Lys Glu Asn Thr Pro Glu Gln Ile			
210	215	220	
Glu Lys Ala Glu Lys Leu Phe Arg Gln Tyr Phe Arg Thr Val Gln Val			
225	230	235	240
Asn			

<210> 9267
<211> 387
<212> PRT
<213> *B.fragilis*

<400> 9267			
Leu Ile Val Val Asn Thr Lys Val Ile Leu Leu Asn Gln Phe Thr Met			
1	5	10	15
His Thr Asp Leu Lys Pro Ile Asn Lys Asp Ala Ser Asn His Val Leu			
20	25	30	
Thr Asn Leu Glu Lys Leu Glu Lys Lys Thr Ala Glu Glu Arg Leu Lys			
35	40	45	
Phe Met Asp Glu Asp Arg Tyr Glu Glu Met Ile Thr Lys Trp Ala Tyr			
50	55	60	
Phe Cys Leu Lys Glu Asp Ser Asn Lys Lys Tyr Glu Asp Val Phe Arg			
65	70	75	80
Tyr Gly Gly Ser Gly Asp Gly Gly Ile Asp Val Ile Ala Phe Tyr Asp			
85	90	95	
Phe Lys Asn Gln Ile Cys Asp Ile Tyr Gln Cys Lys His Tyr Lys Asp			
100	105	110	
Ser Ile Gly Tyr Ser Asp Ile Asn Lys Glu Leu Cys Lys Phe Leu Tyr			
115	120	125	
Asn Thr Phe Ile Asp Tyr Ile Pro Phe Pro Lys Thr Tyr Tyr Leu Val			
130	135	140	
Ala Pro Gln Asn Ile Thr Gly Pro Leu Gly Ser Leu Phe Asn Asp His			
145	150	155	160
Glu Lys Leu Arg Asn Arg Leu Trp Glu Asp Trp Glu Lys Ser Ile Lys			
165	170	175	
Lys Lys Leu Ala Val Asn Ile Thr Asn Asp Glu Asn Asp Lys Phe Lys			
180	185	190	
Lys His Val Asp Thr Phe Asp Leu Ser Ile Ile Lys Pro Leu Ser Pro			
195	200	205	
Asp Lys Ile Ile Glu Gly Leu Arg Lys Glu Tyr Trp Leu Tyr Phe Gln			
210	215	220	
Tyr Leu Gly Ile Asp Arg Thr Leu Ile Pro Arg Ile His Ala Ala Pro			
225	230	235	240
Pro Ser Thr Val Ala Asp Tyr Glu Ser Thr Tyr Ile Asn His Leu Val			
245	250	255	
Asp Ala Tyr Ser Asp Ala Asn Lys Ser Ser Ile Thr Gln Ile Asn Leu			
260	265	270	
Asn Asp Glu Asn Met Ala Met Tyr Lys Ala His Phe Thr Ala Ser Arg			
275	280	285	
Glu Gln Phe Tyr Leu Ala Glu Ser Ala Ala Met Ile Gly Lys Glu Ile			
290	295	300	
Cys Ser Gly Gly Asn Asp Glu Tyr Ser Glu Ile Lys Asp Asn Ile Glu			

305	310	315	320
Glu His Val Ile Asp Glu Tyr Tyr Ser Gln Tyr His Thr Asp Gly Phe			
325	330	335	
Glu Lys Val Lys Ala Val Thr Lys Ser Ala Ser Gln Tyr Gln Val Glu			
340	345	350	
Glu Met Asn Ser Val Lys Pro Ile Ile Ser Ser Arg Val Leu Lys Gly			
355	360	365	
Met Cys Phe Gln Leu Ser Asn Glu Asn Lys Leu Ile Trp Val Lys Lys			
370	375	380	
Lys Ile Lys			
385			

<210> 9268

<211> 135

<212> PRT

<213> B.fragilis

<400> 9268

Thr Phe Ser Val Phe Met Gly Tyr Phe Ile Lys Ile Gly Leu Gly Met			
1	5	10	15
Thr Glu Ile Lys Ile Lys Arg Val Tyr Glu Asp Pro Ser Asp Thr Asp			
20	25	30	
Gly Tyr Arg Val Leu Val Asp Arg Leu Trp Pro Arg Gly Met Lys Lys			
35	40	45	
Glu His Leu Lys Tyr Asp Tyr Trp Ala Lys Glu Leu Thr Pro Ser Ser			
50	55	60	
Asp Leu Arg Lys Trp Phe His Asp Asp Val Pro Gly His Trp Lys Glu			
65	70	75	80
Phe Ala Glu Met Tyr Arg Lys Glu Leu Glu Thr Ser Asp Lys Thr Ser			
85	90	95	
Glu Phe Leu Ser Arg Ile Arg Ser Cys Glu Ser Val Thr Leu Leu Tyr			
100	105	110	
Ala Ser Lys Glu Pro Val Tyr Asn His Ala Arg Ile Leu Gln Ala Phe			
115	120	125	
Leu Glu Glu Arg Leu Lys Lys			
130	135		

<210> 9269

<211> 348

<212> PRT

<213> B.fragilis

<400> 9269

Ile Asn Ser Phe Met Leu Ser Glu Lys Arg Asn Ser Met Leu His Gly			
1	5	10	15
Val Leu Leu Ile Ala Leu Phe Ser Cys Ala Ala Phe Tyr Ile Gly Asp			
20	25	30	
Met Glu Phe Ile Lys Lys Leu Ser Phe Ser Pro Met Ile Val Gly Ile			
35	40	45	
Ile Leu Gly Met Leu Tyr Ala Asn Ser Leu Arg Asn Asn Leu Pro Glu			
50	55	60	
Thr Trp Val Pro Gly Ile Gln Phe Cys Ser Lys Arg Ile Leu Arg Ile			
65	70	75	80
Gly Ile Ile Leu Tyr Gly Phe Lys Leu Thr Phe Gln Asp Val Leu Ala			
85	90	95	
Val Gly Leu Pro Ala Ile Leu Ile Asp Thr Ile Val Val Thr Ile Thr			
100	105	110	
Ile Leu Gly Gly Ile Leu Ile Gly Arg Met Leu Lys Met Asp Arg Gly			
115	120	125	

Val Ala Leu Leu Thr Ser Ile Gly Ser Gly Ile Cys Gly Ala Ala Ala
 130 135 140
 Ile Leu Gly Ala Glu Ser Thr Ile Gln Thr Lys Pro Tyr Lys Thr Ala
 145 150 155 160
 Val Ala Val Ser Thr Val Val Ile Phe Gly Thr Leu Ser Met Phe Ile
 165 170 175
 Tyr Pro Ile Leu Tyr Arg Asn Gly Thr Phe Val Leu Ser Pro Asn Glu
 180 185 190
 Met Gly Ile Phe Thr Gly Ala Thr Leu His Glu Val Ala His Thr Val
 195 200 205
 Gly Ala Gly Asn Ala Met Gly Lys Glu Val Ser Asp Val Ala Ile Ile
 210 215 220
 Val Lys Met Ile Arg Val Met Met Leu Val Pro Val Leu Leu Ile Thr
 225 230 235 240
 Ser Phe Met Val Ser Arg Ala Ala Val Lys Ala Gly Gly Gln Gly Gly
 245 250 255
 Ser Met Lys Asp Ile Ser Ile Pro Trp Phe Ala Ile Gly Phe Leu Ala
 260 265 270
 Val Ile Gly Phe Asn Ser Phe Asp Leu Leu Pro Gln Ser Leu Ile Ala
 275 280 285
 Phe Ile Asn Asn Leu Asp Thr Phe Leu Leu Thr Met Ala Met Thr Ala
 290 295 300
 Leu Gly Ala Glu Thr Ser Ile Asp Lys Phe Lys Lys Ala Gly Ala Lys
 305 310 315 320
 Pro Phe Val Leu Ala Ser Leu Leu Tyr Leu Trp Leu Ile Val Gly Gly
 325 330 335
 Tyr Phe Leu Val Lys Leu Leu Ala Pro Val Leu Met
 340 345

<210> 9270

<211> 351

<212> PRT

<213> B.fragilis

<400> 9270

Ser Pro Lys Leu Lys Ser Met Ala Gly Glu Ile Asn Lys Leu Ile Pro
 1 5 10 15
 Gln Tyr Gly Glu Leu Asn Arg Ile Tyr Asn Asp Trp Val Thr Asn Tyr
 20 25 30
 Ala Phe Ser Phe Asp Lys Gln Lys Phe Ile Thr Asp Phe Tyr Arg Gln
 35 40 45
 His Asn Asp Thr Lys Ala Phe Glu Ala Ala Ile Leu Glu Leu Val Leu
 50 55 60
 Asp Lys Gln Lys Glu Gln Tyr Thr Leu Ile Leu Asn Ser Leu Lys Ile
 65 70 75 80
 Glu Ile Glu Lys Asn Ile Arg Ala Tyr Glu Thr Lys Pro Leu Asn Asp
 85 90 95
 Asp Val Ile Lys Arg Val Cys Phe His Tyr Ala Asp Arg His Asn Ser
 100 105 110
 Ala Ile Lys Asp Gln Leu Glu Ile Thr Thr Lys Leu His Glu Pro Leu
 115 120 125
 Asn Asp Ala Tyr His Arg Tyr Asp Phe Ile Gly Phe Arg Glu His Thr
 130 135 140
 Asp Glu Glu Glu Ile Gln Ala Glu Lys Glu Tyr Glu Arg Cys Lys Ala
 145 150 155 160
 Glu Tyr Asp Lys Glu Lys Lys Glu Leu Asp Lys Leu Tyr Glu Leu Gln
 165 170 175
 Lys Gln Asp Arg Lys Glu Ala Phe Gln Tyr Ile Glu Asn Leu Ser Gly
 180 185 190

Asn Val Tyr Arg Leu Ser Leu Leu Phe Met Glu Val Leu Lys Lys Tyr
 195 200 205
 Leu Pro Asn Asp Arg Glu Glu Lys Gln Gln Asp Glu Pro Val Lys Gln
 210 215 220
 Asn Glu Gln Glu Glu Val Gln Asn Ser Pro Glu Gly Gln His Glu Tyr
 225 230 235 240
 Phe Asp Met Lys Gln Leu Ser Pro Ile His Glu Thr Cys Val Gly Glu
 245 250 255
 Gln Phe Glu Ala Ile Thr Ile Ala Asp Phe Tyr Ala Asn Ile Asn Leu
 260 265 270
 Tyr Pro Cys Lys Asn Lys Leu Lys Ile Lys Ala Arg Glu Lys Ile Arg
 275 280 285
 Val Cys Tyr Leu Ile Phe Leu Met Ser Glu Lys Leu Ser Lys Gln Tyr
 290 295 300
 Arg Asp Glu Trp Arg Ser Gln Ile Leu Lys Leu Leu Asp Ile Asp Glu
 305 310 315 320
 Ser Tyr Tyr Arg Ser Lys Tyr Lys Glu Pro Val Ser Asp Phe Pro Ser
 325 330 335
 Asp Ser Asn Gln Lys Phe Ala Lys Glu Met Glu Ser Ile Phe Gly
 340 345 350

<210> 9271

<211> 63

<212> PRT

<213> B.fragilis

<400> 9271

Ser Gly Tyr Ser Phe Ile Ser Val Phe Cys Tyr Pro Leu Ile His Tyr
 1 5 10 15
 Thr Thr Phe Phe Thr Phe Tyr Ile Ser Val Ile Asp Leu Arg
 20 25 30
 Ser Thr Leu Phe Lys Arg Phe Ser Val Val Val Ile Cys Glu Ile Tyr
 35 40 45
 Thr Asn Gly Trp Leu Phe Phe Lys Glu Thr Ile Asn Gly Asn Gly
 50 55 60

<210> 9272

<211> 189

<212> PRT

<213> B.fragilis

<400> 9272

Thr Asp Asn Ser Asn Met Lys Lys Leu Ile Tyr Leu Leu Gly Leu Ala
 1 5 10 15
 Met Leu Met Ala Val Ala Ala Cys Ser Gly Ser Ala Glu Lys Lys Lys
 20 25 30
 Ser Asp Ile Arg Val Leu Met Gln Asp Ser Thr Asp Ala His Gly Val
 35 40 45
 Gln Arg Met Thr Ala Arg Lys Ser Glu Val Asp Ile Lys Tyr Lys Gly
 50 55 60
 Lys Glu Tyr His Ser Phe Ile Ser Arg Thr Pro Asn Asp Ser Leu Pro
 65 70 75 80
 Arg Val Val Ser Gln Met Gly Asn Thr Tyr Val Asp Asn Gln Ile Val
 85 90 95
 Leu Arg Leu Thr Arg Gly Asn Glu Arg Val Phe Ser Arg Thr Phe Thr
 100 105 110
 Lys Lys Gln Phe Glu Ser Leu Ile Gly Asp Asp Phe Met Ala Lys Ser
 115 120 125
 Ile Leu Glu Gly Ile Val Tyr Asp Lys Thr Thr Pro Glu Gly Ile Val

130	135	140
Tyr Ala Ala Ser Ile Cys	Tyr Pro Gln Thr Asp	Leu Tyr Val Pro Ile
145	150	155
Ser Ile Thr Ile Ser Pro Asp Gly Lys	Ile Ser Met Lys Lys Glu	Glu
165	170	175
Leu Leu Glu Glu Val Tyr Asp Glu Asp	Thr Ser Ala Arg	
180	185	

<210> 9273

<211> 367

<212> PRT

<213> B.fragilis

<400> 9273

Phe Leu Asn Ser His Phe Met Lys Thr	Thr Pro Phe Thr Glu Lys His	
1	5	10
Ile Ala Leu Gly Ala Lys Met His	Glu Phe Ala Gly Tyr Asn Met Pro	
20	25	30
Ile Glu Tyr Ser Gly Ile Ile Asp Glu	His Leu Thr Val Cys Asn Ser	
35	40	45
Val Gly Val Phe Asp Val Ser His	Met Gly Glu Phe Trp Val Lys Gly	
50	55	60
Pro His Ala Leu Asp Phe Leu Gln Lys	Val Thr Ser Asn Asn Val Ala	
65	70	75
Ala Leu Val Pro Gly Lys Ile Gln	Tyr Thr Cys Phe Pro Asn Glu Asp	
85	90	95
Gly Gly Ile Val Asp Asp Leu Leu	Val Tyr Gln Tyr Glu Leu Glu Lys	
100	105	110
Tyr Leu Leu Val Val Asn Ala Ser	Asn Ile Glu Lys Asp Trp Asn Trp	
115	120	125
Cys Ile Ser His Asn Thr Glu Gly	Ala Glu Leu Glu Asn Ser Ser Asp	
130	135	140
Asn Met Ala Gln Leu Ala Val Gln	Gly Pro Lys Ala Ile Gln Ala Leu	
145	150	155
Gln Lys Leu Thr Asp Ile Asn Leu	Ala Asp Ile Pro Tyr Tyr Thr Phe	
165	170	175
Lys Val Gly Glu Phe Ala Gly Glu	Lys Asn Val Ile Ile Ser Asn Thr	
180	185	190
Gly Tyr Thr Gly Ala Gly Gly	Phe Glu Leu Tyr Phe Tyr Pro Asp Ala	
195	200	205
Ala Met Lys Ile Trp Asp Ala Val	Phe Glu Ala Gly Ala Glu Phe Gly	
210	215	220
Ile Lys Pro Ile Gly Leu Gly	Ala Arg Asp Thr Leu Arg Leu Glu Met	
225	230	235
Gly Phe Cys Leu Tyr Gly Asn Asp	Leu Asp Asp Thr Thr Ser Pro Ile	
245	250	255
Glu Ala Gly Leu Gly Trp Ile	Thr Lys Phe Val Asp Gly Lys Asn Phe	
260	265	270
Thr Asn Arg Ser Met Leu Glu	Gln Lys Ala Glu Gly Thr Val Arg	
275	280	285
Lys Leu Val Gly Phe Glu Met	Ile Asp Arg Gly Ile Pro Arg His Gly	
290	295	300
Tyr Glu Leu Thr Thr Ala Glu	Gly Asp Lys Ile Gly Val Val Thr Ser	
305	310	315
Gly Thr Met Ser Pro Ile Arg	Lys Ile Gly Ile Gly Met Gly Tyr Val	
325	330	335
Lys Pro Glu Tyr Ser Lys Ile Gly	Thr Glu Ile Cys Ile Asp Met Arg	
340	345	350
Gly Arg Lys Leu Lys Ala Val	Val Val Lys Pro Pro Phe Arg Lys	

355

360

365

<210> 9274

<211> 74

<212> PRT

<213> B.fragilis

<220>

<221> UNSURE

<222> (67), (68), (69), (70), (71)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 9274

Met	Ser	Gln	Gln	Gln	Glu	Tyr	Trp	Phe	Ala	Ala	Arg	Thr	Arg	Lys	Asp
1					5				10					15	
Gln	Glu	Leu	Thr	Thr	Arg	Asp	Ala	Leu	Glu	Lys	Ile	Gly	Val	Glu	Tyr
			20					25					30		
Phe	Leu	Pro	Thr	Gln	Phe	Val	Ile	Arg	Gln	Leu	Lys	Tyr	Arg	Arg	Arg
			35				40					45			
Arg	Val	Glu	Val	Pro	Ala	Ile	Arg	Leu	His	Gln	Gly	Cys	Lys	Gly	Pro
	50				55				60						
Gln	Gly	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Gly	Val	Leu					
65					70										

<210> 9275

<211> 634

<212> PRT

<213> B.fragilis

<400> 9275

Arg	Ser	Leu	Ser	Tyr	Arg	Leu	Leu	Ile	Ile	Asn	His	Leu	Lys	Lys	Arg
1					5				10				15		
Met	Asp	Lys	Asn	Thr	Ile	Thr	Gly	Leu	Val	Leu	Ile	Gly	Ile	Leu	Leu
				20				25				30			
Val	Gly	Phe	Ser	Phe	Leu	Ser	Arg	Pro	Ser	Glu	Glu	Gln	Ile	Ala	Ala
				35				40				45			
Gln	Lys	Arg	Tyr	Tyr	Asp	Ser	Ile	Ala	Val	Val	Gln	Gln	Gln	Glu	Glu
				50			55				60				
Ala	Leu	Arg	Ala	Lys	Thr	Glu	Ala	Ala	Leu	Ala	Asn	Glu	Lys	Glu	Glu
	65				70				75			80			
Thr	Ala	Ala	Asp	Ser	Ala	Ser	Leu	Phe	Phe	Ser	Ala	Thr	Lys	Gly	Lys
				85				90				95			
Glu	Ala	Phe	Thr	Thr	Ile	Gln	Asn	Asn	Leu	Val	Glu	Ile	Thr	Leu	Asp
				100			105				110				
Asn	Lys	Gly	Gly	Arg	Val	Tyr	Ser	Ala	Leu	Leu	Lys	Asn	Tyr	Met	Gly
				115			120				125				
Gln	Asp	Lys	Lys	Pro	Val	Val	Leu	Phe	Asn	Gly	Ser	Asp	Ala	Ser	Met
				130			135			140					
Asn	Phe	Asn	Phe	Tyr	Asn	Lys	Lys	Gly	Ala	Leu	Gln	Thr	Lys	Asp	Phe
	145				150				155			160			
Tyr	Phe	Glu	Ala	Val	Asn	Lys	Thr	Asp	Ser	Ser	Val	Thr	Met	Arg	Leu
				165				170				175			
Ala	Ala	Asp	Ser	Ala	Ser	Tyr	Ile	Asp	Phe	Ile	Tyr	Thr	Leu	Lys	Pro
				180				185			190				
Asp	Asn	Tyr	Leu	Met	Ser	Phe	Val	Ile	Lys	Ala	Thr	Gly	Met	Asp	Gly
				195			200			205					
Lys	Leu	Ala	Ala	Ser	Thr	Asn	Tyr	Val	Asp	Ile	Ser	Trp	Ser	Gln	Arg
	210				215				220						
Ala	Arg	Gln	Ile	Glu	Lys	Gly	Tyr	Tyr	Glu	Asn	Arg	Leu	Ala	Asp	

225	230	235	240
Leu Thr Tyr Lys Tyr	Thr Gly Asp Asp Val	Asp Asn Leu Ser Ala Ser	
245	250	255	
Lys Asp Asp Glu Lys Ser Val Ser	Glu Arg Leu Asp Trp Ile Ala Phe		
260	265	270	
Lys Asn Gln Phe Phe Ser Ser Val	Phe Ile Ala Glu Gln Asp Phe Glu		
275	280	285	
Lys Thr Thr Val Lys Ser Lys Met	Glu Lys Gln Gly Ser Gly Tyr Ile		
290	295	300	
Lys Asp Tyr Ser Ala Glu Met Ser	Thr Phe Asp Pro Thr Gly Lys		
305	310	315	320
Gln Pro Thr Asp Met Tyr Phe Tyr	Phe Gly Pro Asn His Tyr Lys Thr		
325	330	335	
Leu Thr Ala Leu Asp Lys Gly Arg	Glu Glu Lys Trp Glu Leu Asn Asn		
340	345	350	
Leu Val Tyr Leu Gly Trp Pro	Leu Ile Arg Trp Ile Asn Lys Trp Ile		
355	360	365	
Thr Ile Asn Val Phe Asp Trp	Leu Ser Gly Trp Gly Leu Ser Met Gly		
370	375	380	
Ile Val Leu Leu Leu Leu Thr	Ile Met Val Lys Ile Val Val Phe Pro		
385	390	395	400
Ala Thr Trp Lys Thr Tyr Met	Ser Ser Ala Lys Met Arg Val Leu Lys		
405	410	415	
Pro Lys Ile Asp Glu Ile Asn Lys	Lys Tyr Pro Lys Gln Glu Asp Ala		
420	425	430	
Met Lys Lys Gln Gln Glu Val	Met Gly Leu Tyr Ser Gln Tyr Gly Val		
435	440	445	
Ser Pro Met Gly Gly Cys	Leu Pro Met Leu Leu Gln Phe Pro Ile Leu		
450	455	460	
Met Ala Leu Phe Met Phe	Val Pro Ser Ala Ile Glu Leu Arg Gln Gln		
465	470	475	480
Ser Phe Leu Trp Ala Asp Asp	Leu Ser Thr Tyr Asp Ala Phe Ile Thr		
485	490	495	
Phe Pro Phe His Ile Pro Phe	Leu Gly Asn His Leu Ser Leu Phe Cys		
500	505	510	
Leu Leu Met Thr Val Thr Asn	Ile Leu Asn Thr Lys Tyr Thr Met Gln		
515	520	525	
Gln Gln Asp Thr Gly Ala	Gln Pro Gln Met Ala Ala Met Lys Trp Met		
530	535	540	
Met Tyr Leu Met Pro Ile Met	Phe Leu Phe Val Leu Asn Asp Tyr Pro		
545	550	555	560
Ser Gly Leu Asn Tyr Tyr	Tyr Phe Ile Ser Thr Leu Ile Ser Val Val		
565	570	575	
Thr Met Ile Ile Leu Arg Arg	Thr Thr Asp Glu Asn Lys Leu Leu Thr		
580	585	590	
Glu Leu Glu Ala Lys Lys	Asp Pro Lys Gln Met Lys Lys Thr Gly		
595	600	605	
Phe Ala Ala Arg Leu Glu	Ala Met Gln Lys Gln Gln Glu Gln Leu Ala		
610	615	620	
Lys Glu Arg Ala Asn Lys	Gln Asn Lys Lys		
625	630		

<210> 9276

<211> 191

<212> PRT

<213> B.fragilis

<400> 9276

Arg Ile Lys Ser Leu Ser Pro Tyr Tyr Lys Cys Lys Leu Ser Leu Tyr

1	5	10	15
Leu Pro Tyr Lys Leu Lys Asn Thr Thr Asn Met Phe Thr Ile Arg Lys			
20	25	30	
Ala Thr Ser Asp Asp Cys Lys Leu Ile Asn Glu Leu Ala Asn Gln Val			
35	40	45	
Phe Pro Ala Thr Tyr Lys Glu Ile Leu Ser Thr Glu Gln Leu Asp Tyr			
50	55	60	
Met Met Glu Trp Met Tyr Ala Pro Glu Asn Ile Arg Lys Gln Met Glu			
65	70	75	80
Glu Glu Gly His Val Tyr Phe Ile Ala Tyr Gln Gly Asp Glu Pro Cys			
85	90	95	
Gly Tyr Val Ser Val Gln Pro Gln Asp Ala Asp Val Phe His Leu Gln			
100	105	110	
Lys Ile Tyr Val Leu Pro Gly Phe Gln Gly Ala His Leu Gly Ser Lys			
115	120	125	
Leu Phe Asp His Ala Val Gln Tyr Ile Lys Glu Ile His Pro Ser Pro			
130	135	140	
Cys Leu Met Glu Leu Asn Val Asn Arg Asn Asn Lys Ala Leu His Phe			
145	150	155	160
Tyr Glu His Lys Gly Met Lys Lys Leu Arg Glu Gly Asp Phe Pro Ile			
165	170	175	
Gly Asn Gly Tyr Tyr Met Asn Asp Tyr Ile Met Gly Leu Glu Leu			
180	185	190	

<210> 9277

<211> 143

<212> PRT

<213> B.fragilis

<400> 9277

Ile Met Met Pro Val Arg Arg Ser Gln Asn Trp Leu Pro Ser Ile Phe			
1	5	10	15
Asn Asp Phe Phe Asp Asn Glu Leu Met Ala Lys Ala Asn Ala Thr Ala			
20	25	30	
Pro Ala Ile Asn Val Ile Glu Thr Asp Lys Ala Tyr Lys Leu Glu Leu			
35	40	45	
Ala Ala Pro Gly Met Thr Lys Glu Asp Phe Ser Val Arg Ile Asp Glu			
50	55	60	
Glu Asn Asn Leu Val Ile Ser Met Glu Lys Lys Ala Glu Asn Lys Glu			
65	70	75	80
Glu Lys Lys Asp Gly Arg Tyr Leu Arg Arg Glu Phe Ser Tyr Ser Lys			
85	90	95	
Phe Gln Gln Thr Met Ile Leu Pro Glu Asn Val Asp Lys Asp His Ile			
100	105	110	
Ser Ala Gln Val Glu Asn Gly Val Leu Asn Ile Glu Leu Pro Lys Leu			
115	120	125	
Ser Glu Glu Glu Val Lys Lys Pro Asp Arg Thr Ile Glu Val Lys			
130	135	140	

<210> 9278

<211> 113

<212> PRT

<213> B.fragilis

<400> 9278

Phe Tyr Asn Thr Met Lys Arg Tyr Cys Gln Thr Leu Glu Leu Tyr Asn			
1	5	10	15
Asp Ser Glu Leu Ile Arg Ala Tyr Val Ala Glu His Gln His Val Trp			
20	25	30	

Pro Glu Ile Lys Ala Gly Ile Arg Glu Val Gly Ile Leu Asp Met Gln
 35 40 45
 Ile Tyr Ile His Glu His Thr Leu Phe Met Ile Val Asp Thr Val Asp
 50 55 60
 Glu Phe Asp Trp Ile Lys Asp Asn Glu Arg Leu Ala Lys Leu Pro Arg
 65 70 75 80
 Gln Ala Glu Trp Glu Ala Tyr Met Ser Arg Phe Gln Arg Ser Leu Pro
 85 90 95
 Gly Gln Ala Ser His Glu Lys Trp Lys Met Met Glu Arg Ile Phe Lys
 100 105 110
 Leu

<210> 9279
 <211> 438
 <212> PRT
 <213> B.fragilis

<400> 9279
 Gln Asn Thr Thr Lys Asp Met Ile Trp Asn Glu Ser Ile Glu Cys Met
 1 5 10 15
 Glu Arg Asp Asn Leu His Lys Ile Gln Ser Ile Arg Leu Lys Lys Ile
 20 25 30
 Val Glu Tyr Val Tyr His Asn Thr Pro Phe Tyr Arg Lys Lys Met Gln
 35 40 45
 Glu Leu Gly Ile Thr Pro Asp Asp Ile Asn Gly Ile Glu Asp Ile Ser
 50 55 60
 Lys Leu Pro Phe Thr Thr Lys Leu Asp Leu Arg Asp Asn Tyr Pro Phe
 65 70 75 80
 Gly Leu Cys Ala Val Pro Met Ser Gln Ile Val Arg Ile His Ala Ser
 85 90 95
 Ser Gly Thr Thr Gly Lys Pro Thr Val Val Gly Tyr Thr Arg Lys Asp
 100 105 110
 Leu Ser Thr Trp Ala Glu Cys Leu Ser Arg Ala Phe Thr Ala Tyr Gly
 115 120 125
 Ala Gly Arg Ser Asp Ile Phe Gln Val Ser Tyr Gly Tyr Gly Leu Phe
 130 135 140
 Thr Gly Gly Leu Gly Ala His Ala Gly Ala Glu Asn Ile Gly Ala Ser
 145 150 155 160
 Val Ile Pro Met Ser Ser Gly Asn Thr Glu Lys Gln Ile Thr Leu Met
 165 170 175
 His Asp Phe Gly Ser Thr Val Leu Cys Cys Thr Pro Ser Tyr Ala Leu
 180 185 190
 Tyr Leu Ala Asp Ala Ile Asn Asp Ser Gly Phe Pro Arg Glu Glu Phe
 195 200 205
 Lys Leu Lys Ala Gly Ala Phe Gly Ala Glu Pro Trp Thr Glu Ser Met
 210 215 220
 Arg Lys Asp Ile Glu Thr Lys Leu Gly Ile Lys Ala Tyr Asp Ile Tyr
 225 230 235 240
 Gly Leu Ser Glu Ile Ala Gly Pro Gly Val Gly Tyr Glu Cys Glu Cys
 245 250 255
 Gln Asn Gly Thr His Leu Asn Glu Asp His Phe Phe Pro Glu Ile Ile
 260 265 270
 Asp Pro His Thr Leu Gln Pro Val Glu Pro Gly Gln Thr Gly Glu Leu
 275 280 285
 Val Phe Thr Pro Leu Thr Lys Glu Gly Met Pro Leu Leu Arg Thr Arg
 290 295 300
 Gln Lys Val Leu Pro Val Leu His Tyr Glu Lys Cys Ser Ala Glu Arg
 305 310 315 320

Ile Trp Val Arg Met Gly Arg Ile Leu Asp Val Ser Ala Asp Met Leu
 325 330 335
 Ile Ile Arg Gly Val Asn Val Phe Pro Thr Gln Ile Glu Ser Val Ile
 340 345 350
 Leu Glu Met Ala Glu Phe Glu Pro His Tyr Leu Leu Thr Ile Asp Arg
 355 360 365
 Lys Asn Asn Thr Asp Thr Met Glu Leu Lys Val Glu Val Arg Pro Asp
 370 375 380
 Tyr Tyr Ser Asp Glu Ile Asn Lys Met Leu Ala Leu Lys Lys Lys Leu
 385 390 395 400
 Thr Gly Arg Leu Gln Ser Val Leu Gly Leu Gly Val Asp Val Lys Leu
 405 410 415
 Val Glu Pro Arg Ser Ile Glu Arg Ser Val Gly Lys Ala Lys Arg Val
 420 425 430
 Ile Asp Asn Arg Lys Leu
 435

<210> 9280

<211> 1033

<212> PRT

<213> B.fragilis

<400> 9280

Lys Glu Lys Thr Asp Ile Leu Ser Tyr Tyr Ile Met Asn Lys Gln Thr
 1 5 10 15
 Ser Thr Pro Ser Gln Ile His Arg Leu Gln Gln Thr Ile Tyr Glu Asn
 20 25 30
 Leu Pro Val Gly Met Glu Leu Tyr Asp Gly Asp Gly Tyr Leu Ile Glu
 35 40 45
 Ile Asn Ser Val Gly Leu Lys Met Met Gly Val Lys Asp Lys Gln Asp
 50 55 60
 Met Leu Gly Ile Asn Ile Phe Glu Asn Pro Asn Ile Pro Val Glu Met
 65 70 75 80
 Lys Arg Arg Leu Arg Ala Gly Glu Asn Ile Arg Phe Thr Val Lys Tyr
 85 90 95
 Asp Phe Asp Leu Ala Lys Ala His Tyr Pro Thr Val Leu Ser Gly Ile
 100 105 110
 Ser Tyr Phe Glu Ile Ala Val Ser Val Val Leu Asp Glu Asn Lys Glu
 115 120 125
 Ile Asp Lys Phe Leu Phe Ile Ala Gln Asp Val Thr Glu Ala Val His
 130 135 140
 Thr Gln Glu Ile Leu Arg Gln Ser Lys Gln Lys Thr Ala Leu Ala Met
 145 150 155 160
 Gln Ala Ala Glu Val Met Leu Trp Glu Phe Asp Val Cys Thr Arg Leu
 165 170 175
 Phe Tyr Ala Glu Asn Glu Pro Leu Asn Gly Tyr Asp Pro Thr Gln Ala
 180 185 190
 Leu Thr Ile Glu Asp Tyr Lys Lys Gln Ile His Pro Glu Asp Trp Lys
 195 200 205
 Lys Ala Glu Ile Ile Leu Leu Asp Met Leu Ser Gly Cys Asp Cys Leu
 210 215 220
 Tyr Glu Ile Asp Phe Arg Ile Arg Leu Ser Asp Thr Ser Glu Trp Gln
 225 230 235 240
 Tyr Cys Lys Leu Asn Cys Thr Pro Tyr Glu Arg Gly Thr Asp Gly Lys
 245 250 255
 Val Ile Lys Tyr Val Gly Phe Arg Lys Asn Asn Thr Glu Leu Gln Arg
 260 265 270
 Arg Lys Leu Leu Gln Glu Asn Ile Leu Asn Ser Ile Pro Leu Pro Ile
 275 280 285

His Ile Lys Asp Val Glu Asp Asp Phe Arg Tyr Val Phe Cys Asn Glu
 290 295 300
 Glu Ser Met Arg Met Phe Gly Thr His Glu Gly Glu Thr Val Cys Ser
 305 310 315 320
 Val Leu Asp Ser Glu Gln Ala Glu Arg Met Gln Lys Thr Asp Leu Glu
 325 330 335
 Val Phe Thr Thr Gly Lys Pro Tyr Phe Gly Val Glu Arg Ile Ile Leu
 340 345 350
 Lys Asp Gly Arg Ser Tyr Asp Thr Ile Val Arg Lys Asn Ile Ile Tyr
 355 360 365
 Asp Gly Thr Lys Arg Leu Leu Asn Ile Arg Trp Asp Gln Lys Leu
 370 375 380
 Gln Asn Asp Leu Lys Arg Arg Ala Lys Val Leu Ser Met Ser Met Glu
 385 390 395 400
 Val Met Asn Ala Tyr Thr Trp Phe Tyr Glu Pro Ser Lys Gln Arg Val
 405 410 415
 Ser Phe Gly Glu Gly Phe Asp Lys Ile Gly Arg Asn Ala Leu Asp Ile
 420 425 430
 Asn Ser Phe Glu Lys Phe Ala Glu Cys Val His Pro Asp Asp Arg Gln
 435 440 445
 Arg Phe Val Asp Thr Met Asp Ala Val Leu Lys Gln Asp Ser Gly Glu
 450 455 460
 Trp Asp Ile Glu Tyr Arg Ala Asp Leu Arg Gly Asn Gly Asn Tyr Glu
 465 470 475 480
 Trp Trp Lys Thr Arg Gly Val Leu Glu Thr Ser Ile Leu Asn Asp His
 485 490 495
 Pro Tyr Gln Tyr Val Ser Gly Met Ser Ile Ser Ile Glu Ser Tyr Lys
 500 505 510
 Gln Thr Glu Leu Thr Leu Leu Lys Asn Lys Glu Lys Leu Asn Lys Leu
 515 520 525
 Ile Arg Gln Asn Glu Leu Val Leu Asn Asn Thr Asn Ser Gly Leu Ala
 530 535 540
 Tyr Ile Thr Thr Asp Tyr Val Val Gln Trp Glu Asn Val Ser Val Cys
 545 550 555 560
 Ser Ser Ser Leu Ser Phe Glu Ala Tyr Lys Arg Gly Glu Cys Cys Tyr
 565 570 575
 Lys Ser Ala His Asn Arg Thr Ser Pro Cys Asp Asn Cys Val Leu Ser
 580 585 590
 Lys Val Leu Val Ser Arg Gln Met Glu Lys Ile Lys Phe His Leu Glu
 595 600 605
 Asn Asn Arg Ile Val Glu Val Leu Ala Thr Pro Val Phe Asn Glu Ser
 610 615 620
 Glu Glu Ile Asp Gly Ile Val Ile Arg Val Asp Asp Ile Thr Asp Arg
 625 630 635 640
 Glu Arg Met Ile Glu Glu Leu Arg Gln Ala Lys Leu Leu Ala Glu Gln
 645 650 655
 Ser Asp Lys Leu Lys Ser Ala Phe Leu Ala Asn Met Ser His Glu Ile
 660 665 670
 Arg Thr Pro Leu Asn Ala Ile Val Gly Phe Ser Asp Leu Leu Met Asn
 675 680 685
 Ser Glu Glu Gln Gly Asp Lys Glu Glu Tyr Met Gln Ile Ile Asn Thr
 690 695 700
 Asn Asn Glu Leu Leu Leu Lys Leu Ile Asn Asp Ile Leu Asp Leu Ser
 705 710 715 720
 Lys Leu Glu Ser Gly Ser Val Glu Leu Lys Tyr Glu Glu Phe Asp Leu
 725 730 735
 Ala Glu Tyr Phe Asp Ser Met Ala Ser Ser Met Lys Gln Arg Val Thr
 740 745 750
 Asn Pro Lys Val Gln Leu Val Ala Val Asn Pro Tyr Ser Val Cys Arg

755	760	765
Val Arg Leu Asp Lys Asn Arg Val Ala Gln Val Val	Thr Asn Tyr Val	
770	775	780
Thr Asn Ala Ile Lys Tyr Thr Pro Gln Gly Thr	Ile Glu Met Gly Tyr	
785	790	795
Glu Val Val Asp Ala Gly Ile Arg Leu Tyr Val	Arg Asp Thr Gly Ile	
805	810	815
Gly Ile Pro Glu Glu Lys Lys Arg Lys Val Phe His	Arg Phe Glu Lys	
820	825	830
Leu Asp Glu Phe Ala Gln Gly Thr Gly Leu Ser Ile	Cys Lys	
835	840	845
Ala Ile Thr Glu Ser Met Gly Gly Ser Val Gly	Phe Glu Ser Glu Tyr	
850	855	860
Ser Arg Gly Ser Leu Phe Trp Ala Val Leu Pro	Cys Asp Pro Glu Val	
865	870	875
Gln Met Arg Arg Glu Ser Asn Ile Ala Ile Gly	Gln Asn Thr Gly Lys	
885	890	895
Asp Asp Leu Ile Arg Ser Gly Asn Gln Tyr Ser Ala	Leu Asp Arg Lys	
900	905	910
Thr Val Leu Val Val Glu Asp Ile Ser Ser Asn Tyr	Leu Leu Ile Ser	
915	920	925
Ala Met Leu Ser Lys His Tyr Asn Leu Leu His	Ala Val Asn Gly Glu	
930	935	940
Gln Ala Val Ala Met Val Lys Glu Tyr Lys Ile	Asp Leu Leu Leu Met	
945	950	955
Asp Met Lys Met Pro Val Met Asp Gly Leu Thr Ala	Thr Ala Glu Ile	
965	970	975
Arg Lys Phe Asp Thr Asn Ile Pro Ile Val Ala Leu	Thr Ala His Ala	
980	985	990
Phe Glu Ser Asp Lys Val Ala Ala Leu Lys Ser Gly	Cys Asn Asp Tyr	
995	1000	1005
Leu Val Lys Pro Val Asp Lys Ala Arg Leu Met	Ser Val Leu Arg Lys	
1010	1015	1020
Tyr Cys His Pro Ser Thr Leu Val Leu		
1025	1030	

<210> 9281
<211> 737
<212> PRT
<213> B.fragilis

<400> 9281		
Arg Lys Glu Thr Gly Arg Lys Ser Arg Phe Asp Leu Ile Phe Ala Tyr		
1	5	10
Leu Arg Ser Thr Ile Met Glu Glu Asn Thr Ser Lys Leu Ile Ile		
20	25	30
Lys Ile Thr Met Arg Gln Val Asn Leu Phe Ile Met Ser Ala Ala Met		
35	40	45
Met Leu Ala Ser Cys Gly Gly Thr Lys Asp Ala Gly Lys Thr Asp Gln		
50	55	60
Ala Leu Ile Gly Lys Ser Asp Ile Lys Ile Glu Gly Lys Arg Met Thr		
65	70	75
Pro Glu Ala Leu Trp Ala Met Gly Arg Ile Gly Gly Leu Ala Val Ser		
85	90	95
Pro Asp Gly Lys Gln Ile Ala Tyr Thr Val Ala Tyr Tyr Ser Val Pro		
100	105	110
Glu Asn Lys Ser Asn Arg Glu Val Phe Val Met Asn Ala Asp Gly Thr		
115	120	125
Asp Asn Arg Gln Ile Thr His Thr Pro Tyr Gln Glu Asn Glu Val Thr		

130	135	140
Trp Ala Ala Asp Gly Ser	Lys Leu Leu Phe Leu Ser Asn Asp Asn Gly	
145	150	155
Ser Ser Gln Leu Tyr Glu Met Asn Pro Asp Gly Ser Gly Arg Lys Gln		160
165	170	175
Ile Ser Lys Tyr Asp Gly Asp Ile Glu Gly Tyr Ser Ile Ser Pro Asp		
180	185	190
Gly Lys Lys Ile Leu Phe Ile Ala Gln Val Lys Thr Val Lys Ser Thr		
195	200	205
Ala Asp Lys Tyr Pro Asp Leu Asp Lys Ala Thr Gly Ile Ile Ile Thr		
210	215	220
Asp Leu Met Tyr Lys His Trp Asp Glu Trp Val Thr Thr Ala Pro His		
225	230	235
Pro Phe Ile Ala Asp Phe Asp Gly Lys Ser Ile Ser Asn Ile Ile Asp		240
245	250	255
Val Leu Glu Gly Glu Pro Tyr Glu Ser Pro Met Lys Pro Trp Gly Gly		
260	265	270
Ile Glu Gln Leu Ala Trp Asn Thr Thr Ser Asp Lys Val Ala Tyr Thr		
275	280	285
Cys Arg Lys Lys Thr Gly Leu Ala Tyr Ala Ile Ser Thr Asn Ser Asp		
290	295	300
Ile Tyr Val Tyr Asp Leu Asn Thr Lys Lys Thr Val Asn Ile Thr Glu		
305	310	315
Gly Met Met Gly Tyr Asp Thr Asn Pro Gln Tyr Ser Pro Asp Gly Lys		320
325	330	335
Ser Ile Ala Trp Gln Ser Met Glu Arg Asp Gly Tyr Glu Ala Asp Gln		
340	345	350
Asn Arg Leu Phe Val Met Asn Leu Glu Thr Gly Glu Lys Arg Phe Val		
355	360	365
Ser Lys Ala Phe Asp Ser Asn Val Asp Ala Phe Val Trp Ser Arg Asp		
370	375	380
Ala Lys Thr Ile Tyr Phe Thr Gly Val Trp His Gly Glu Thr Gln Ile		
385	390	395
Tyr Ser Leu Asp Leu Ser Asn Asp Ser Val Arg Pro Val Thr Ser Gly		400
405	410	415
Met Tyr Asp Tyr Glu Gly Val Ala Leu Phe Gly Asp Lys Leu Ile Ala		
420	425	430
Lys Arg His Ser Met Ser Met Gly Asp Glu Ile Tyr Ala Ile Ala Leu		
435	440	445
Asp Gly Gln Thr Thr Gln Leu Thr Gln Glu Asn Lys Gln Ile Tyr Asp		
450	455	460
Gln Ile Glu Met Gly Lys Val Glu Gly Arg Trp Met Lys Thr Thr Asp		
465	470	475
Ser Lys Glu Met Leu Thr Trp Val Ile Tyr Pro Pro Gln Phe Asp Pro		480
485	490	495
Asn Lys Lys Tyr Pro Thr Leu Leu Phe Cys Glu Gly Gly Pro Gln Ser		
500	505	510
Pro Val Ser Gln Phe Trp Ser Tyr Arg Trp Asn Met Gln Ile Met Ala		
515	520	525
Ala Asn Gly Tyr Ile Val Val Ala Pro Asn Arg Arg Gly Leu Pro Gly		
530	535	540
Phe Gly Leu Glu Trp Asn Glu Ala Ile Ser Gly Asp Tyr Gly Gly Gln		
545	550	555
Cys Met Lys Asp Tyr Phe Thr Ala Ile Asp Glu Met Ala Lys Glu Pro		560
565	570	575
Phe Val Asp Ser Asp Arg Leu Gly Cys Val Gly Ala Ser Phe Gly Gly		
580	585	590
Phe Ser Val Tyr Trp Leu Ala Gly His His Asp Lys Arg Phe Lys Ala		
595	600	605

Phe Ile Ala His Asp Gly Ile Phe Asn Met Glu Met Gln Tyr Leu Glu
 610 615 620
 Thr Glu Glu Lys Trp Phe Ala Asn Trp Asp Met Gly Gly Ala Tyr Trp
 625 630 635 640
 Glu Lys Gln Asn Pro Thr Ala Gln Arg Thr Phe Ala Asn Ser Pro His
 645 650 655
 Leu Phe Val Glu Lys Trp Asp Thr Pro Ile Leu Cys Ile His Gly Glu
 660 665 670
 Lys Asp Tyr Arg Ile Leu Ala Asn Gln Ala Met Ala Ala Phe Asp Ala
 675 680 685
 Ala Val Met Arg Gly Val Pro Ala Glu Leu Leu Ile Tyr Pro Asp Glu
 690 695 700
 Asn His Trp Val Leu Lys Pro Gln Asn Gly Val Leu Trp Gln Arg Thr
 705 710 715 720
 Phe Phe Glu Trp Leu Asp Gln Trp Leu Lys Pro Asn Glu Thr Ala Gln
 725 730 735
 Lys

<210> 9282
 <211> 556
 <212> PRT
 <213> B.fragilis

<400> 9282
 Tyr Ser Asn Phe Met Phe Glu Gly Gln Pro Lys Gly Leu Tyr Ala Leu
 1 5 10 15
 Ala Leu Ala Asn Thr Gly Glu Arg Phe Gly Tyr Tyr Thr Met Leu Ala
 20 25 30
 Ile Phe Thr Leu Phe Leu Gln Ala Lys Phe Gly Tyr Thr Ala Ala Glu
 35 40 45
 Thr Ser Thr Ile Phe Gly Cys Phe Leu Ala Ala Val Tyr Phe Ile Pro
 50 55 60
 Phe Phe Gly Gly Ile Leu Ala Asp Lys Phe Gly Tyr Gly Lys Met Val
 65 70 75 80
 Thr Met Gly Ile Val Val Met Phe Ile Gly Tyr Ala Leu Leu Ala Ile
 85 90 95
 Pro Thr Ser Asp Asn Ser Gly Lys Ile Met Met Phe Gly Ala Leu Ala
 100 105 110
 Leu Ile Ala Cys Gly Thr Gly Leu Phe Lys Gly Asn Leu Gln Val Met
 115 120 125
 Val Gly Asn Leu Tyr Asp Ala Pro Glu Tyr Ser Ser Lys Arg Asp Thr
 130 135 140
 Ala Phe Ser Ile Phe Tyr Met Ala Ile Asn Ile Gly Ala Met Tyr Ala
 145 150 155 160
 Pro Thr Ala Ala Thr Lys Val Thr Asn Tyr Met Leu Gly Lys Ala Gly
 165 170 175
 Leu Ser Tyr Val Pro Gln Ile Pro Ser Leu Ala His Gln Tyr Leu Asp
 180 185 190
 Gly Thr Ile Thr Pro Ala Asn Gln Ala Thr Leu Glu Ser Leu Gln Ala
 195 200 205
 Ala Gln Asn Phe Thr Gly Asp Ile Ala Thr Phe Cys Thr Thr Tyr Ile
 210 215 220
 Asp Lys Leu Ser Glu Ala Tyr Asn Tyr Gly Phe Gly Val Ala Cys Val
 225 230 235 240
 Ser Leu Ile Ile Ser Met Leu Ile Tyr Val Ala Phe Arg Ser Thr Phe
 245 250 255
 Lys His Ala Asp Tyr Asn Ser Lys Gln Ala Lys Pro Ala Asn Val Val
 260 265 270

Glu Glu Lys Leu Thr Pro Glu Gln Thr Lys Gln Arg Ile Val Ala Leu
 275 280 285
 Leu Leu Val Phe Ala Val Val Ile Phe Phe Trp Met Ala Phe His Gln
 290 295 300
 Asn Gly Leu Thr Leu Thr Phe Phe Ala Arg Asp Tyr Thr Ala Gln Glu
 305 310 315 320
 Val Thr Gly Leu Asp Arg Leu Gly Phe Asn Ile Val Asn Leu Thr Phe
 325 330 335
 Leu Leu Ile Val Ile Tyr Gly Leu Phe Ser Leu Phe Gln Gly Lys Thr
 340 345 350
 Gly Lys Ser Lys Thr Ile Ala Gly Val Val Val Met Val Ala Leu Leu
 355 360 365
 Cys Leu Gly Trp Ser Tyr Thr Ser Met Asp Pro Thr Ile Asn Ile Leu
 370 375 380
 Pro Gln Ile Phe Gln Gln Phe Asn Pro Phe Val Ile Ala Leu Thr
 385 390 395 400
 Pro Val Ser Leu Ala Val Phe Gly Tyr Leu Ala Arg Lys Gly Lys Glu
 405 410 415
 Pro Ser Ala Pro Arg Lys Ile Gly Ile Gly Met Met Ile Ala Val Cys
 420 425 430
 Gly Phe Leu Ile Met Ala Ile Gly Ser Ile Gly Leu Pro Thr Pro Asp
 435 440 445
 Ala Leu Ala Ala Ser Gly Ile Glu Lys Asp Ala Leu Val Ser Pro Asn
 450 455 460
 Trp Leu Ile Ser Thr Tyr Leu Val Leu Thr Phe Ala Glu Leu Phe Leu
 465 470 475 480
 Ser Pro Met Gly Ile Ser Phe Val Ser Lys Val Ala Pro Pro Lys Tyr
 485 490 495
 Lys Gly Met Met Met Gly Gly Trp Phe Ala Ala Thr Ala Ile Gly Asn
 500 505 510
 Tyr Leu Val Ala Ile Ile Gly Tyr Leu Trp Gly Gly Met Gln Leu Trp
 515 520 525
 Met Val Trp Ser Val Leu Ile Val Cys Cys Leu Leu Ala Ala Leu Phe
 530 535 540
 Ile Phe Ser Ile Met Lys Lys Leu Glu Lys Val Ala
 545 550 555

<210> 9283

<211> 207

<212> PRT

<213> B.fragilis

<400> 9283

Thr Ile His Tyr Met Ser Lys Lys Glu Thr Leu Lys Gln Gln Ile Leu
 1 5 10 15
 Asp Leu Thr Arg Glu Tyr Tyr Lys Glu Val His Gly Ser Ser Arg Ser
 20 25 30
 Phe Glu Pro Gly Lys Ser Phe Val Asn Tyr Gly Gly Arg Tyr Phe Asp
 35 40 45
 Asp Arg Glu Leu Val Asn Leu Val Asp Ser Ser Leu Asp Phe Trp Leu
 50 55 60
 Thr Ala Gly Pro Trp Ala Arg Lys Phe Glu Ile Arg Phe Ala Glu Trp
 65 70 75 80
 Leu Gly Val Lys Tyr Cys Ser Leu Thr Asn Ser Gly Ser Ser Ala Asn
 85 90 95
 Leu Leu Ala Phe Met Ala Leu Thr Ser Pro Gln Leu Gly Glu Arg Arg
 100 105 110
 Ile Arg Arg Gly Asp Glu Val Ile Thr Val Ala Cys Gly Phe Pro Thr
 115 120 125

Thr Val Thr Pro Cys Ile Gln Tyr Gly Ala Val Pro Val Phe Val Asp
 130 135 140
 Val Thr Ile Pro Glu Tyr Asn Ile Asp Val Thr Gln Leu Glu Ala Ala
 145 150 155 160
 Leu Ser Pro Lys Thr Lys Ala Val Met Ile Ala His Ser Leu Gly Asn
 165 170 175
 Pro Phe Asp Leu Gln Ala Val Lys Asp Phe Cys Asp Lys His Asn Leu
 180 185 190
 Trp Leu Val Glu Asp Asn Cys Asp Ala Leu Gly Ser Thr Val Phe
 195 200 205

<210> 9284

<211> 189

<212> PRT

<213> B.fragilis

<400> 9284

Arg Lys Asp Tyr Cys Arg Asn Ile Leu Ser Val His Val Arg Val Leu
 1 5 10 15
 Ser Leu His His Gln Leu Ser Lys Lys Tyr Leu Thr Lys Lys Arg Lys
 20 25 30
 Met Lys Lys Ala Ile Phe Leu Leu Thr Ile Leu Leu Met Ala Ser
 35 40 45
 Phe Val Thr Ser Cys Ser Ser Asp Asp Asp Asn Glu Lys Thr Glu Phe
 50 55 60
 Thr Ser Thr Leu Thr Ala Asn Gly Ser Ala Val Lys Ile Thr Asn Leu
 65 70 75 80
 Glu Gly Lys Ala Ile Ala Gly Ser Ile Tyr Glu Phe Trp Ile Asn Asp
 85 90 95
 Ala Thr Ser Asp Phe Tyr Ile Gln Gly Asn Ile Thr Ser His Glu Val
 100 105 110
 His Thr Ser Gly Lys Asp Val Thr Lys Asp Cys Lys Met Met Ile Ala
 115 120 125
 Leu Val Asn Asn Glu Glu Trp Tyr Thr Ser Glu Lys Glu Tyr Val Ser
 130 135 140
 Gly Thr Val Thr Ile Glu Lys Trp Asp Leu Glu Asn Phe Lys Val Thr
 145 150 155 160
 Leu Val Phe Lys Asp Tyr Lys Cys Lys Ser Gly Ser Lys Ser Ile Val
 165 170 175
 Leu Asn Gly Ser Val Thr Phe Pro Thr Ser Ile Asn Ile
 180 185

<210> 9285

<211> 476

<212> PRT

<213> B.fragilis

<400> 9285

Arg Asn Arg Tyr Gly Glu Val Glu Ala Leu Lys Ser Ala Thr Phe Ser
 1 5 10 15
 Val Asn Pro Gly Glu Leu Phe Gly Ile Ile Gly Pro Asp Gly Ala Gly
 20 25 30
 Lys Ser Thr Leu Phe Arg Ile Leu Thr Thr Leu Leu Leu Ala Asp Ser
 35 40 45
 Gly Thr Ala Thr Val Asn Gly Leu Asp Val Val Lys Asp Tyr Lys Gln
 50 55 60
 Ile Arg Gln Gln Val Gly Tyr Met Pro Gly Arg Phe Ser Leu Tyr Gln
 65 70 75 80
 Asp Leu Thr Val Glu Glu Asn Leu Asp Phe Phe Ala Thr Val Phe His

85	90	95
Thr Thr Ile Arg Glu Asn Tyr Asp Leu Val Lys Asp Ile Tyr Gln Gln		
100	105	110
Ile Glu Pro Phe Arg Lys Arg Arg Ala Gly Ala Leu Ser Gly Gly Met		
115	120	125
Lys Gln Lys Leu Ala Leu Ser Cys Ala Leu Ile His Lys Pro Glu Ile		
130	135	140
Leu Phe Leu Asp Glu Pro Thr Thr Gly Val Asp Pro Val Ser Arg Lys		
145	150	155
Glu Phe Trp Glu Met Leu Arg His Leu Lys Asp Gln Gly Ile Thr Ile		
165	170	175
Leu Val Ser Thr Pro Ile Met Asp Glu Ala Arg Gln Cys Asp Arg Ile		
180	185	190
Ala Phe Ile Asn Glu Gly Glu Ile Gln Gly Ile Asp Val Pro Glu Arg		
195	200	205
Ile Leu Gln Arg Phe Ser His Ile Leu Cys Pro Pro Gly Leu Glu Arg		
210	215	220
Thr Glu Val His Ala Gly Asn Asp Phe Ala Ile Glu Val Asp Gln Leu		
225	230	235
Thr Lys Cys Phe Gly His Phe Thr Ala Val Asp His Ile Ser Phe Arg		
245	250	255
Val Asn Arg Gly Glu Ile Phe Gly Phe Leu Gly Ala Asn Gly Ala Gly		
260	265	270
Lys Thr Thr Ala Met Arg Met Leu Cys Gly Leu Ser Lys Pro Thr Ser		
275	280	285
Gly Met Ala Arg Val Ala Gly Phe Asp Val Ala Ala His Pro Glu Glu		
290	295	300
Val Lys Lys Asn Ile Gly Tyr Met Ser Gln Lys Phe Ser Leu Tyr Glu		
305	310	315
Asp Leu Lys Val Trp Glu Asn Ile Arg Leu Phe Ala Gly Ile Tyr Gly		
325	330	335
Met Gln Asp Arg Glu Ile Ala Glu Lys Thr Asp Ala Leu Leu Asp Arg		
340	345	350
Leu Gly Phe Ser Gly Glu Arg Asp Thr Leu Val Lys Ser Leu Pro Leu		
355	360	365
Gly Trp Lys Gln Lys Leu Ala Phe Ser Val Ser Ile Phe His Asn Pro		
370	375	380
Arg Ile Val Phe Leu Asp Glu Pro Thr Gly Gly Val Asp Pro Ala Thr		
385	390	395
Arg Arg Gln Phe Trp Glu Leu Ile Tyr Gln Ala Ala Asp Arg Gly Ile		
405	410	415
Thr Val Phe Val Thr Thr His Tyr Met Asp Glu Ala Glu Tyr Cys Asn		
420	425	430
Arg Val Ser Ile Met Val Asp Gly Arg Ile Glu Ala Leu Asp Thr Pro		
435	440	445
Arg Gly Leu Lys Ala His Phe His Ala Asp Thr Met Asp Asp Val Phe		
450	455	460
Gln Gln Leu Ala Arg Lys Ala Val Arg Lys Ala Asp		
465	470	475

<210> 9286

<211> 112

<212> PRT

<213> B.fragilis

<400> 9286

Thr Lys Ile Leu Trp Met Ser Cys Leu Gly Arg Met Leu Pro Gln Thr		
1	5	10
Ile Arg Met Asp Gly Ser Arg Pro Pro Ile Arg Lys Lys Leu Val Thr		
		15

20	25	30
Asn Asn Tyr Asn Pro Thr Phe Cys Arg Asn Arg Leu	Tyr Arg Leu Trp	
35	40	45
Ile Lys Leu Phe Tyr Gly Pro Ser Thr Gln Val	Tyr Arg Asn Ser Lys	
50	55	60
Arg Ile Asn Val His Gln Lys Tyr Lys Glu Asn Asn Ala Gln Ile		
65	70	80
Ile Met Glu Gln Gln Pro Gln Leu Asn Asp His Asn Lys Gln Glu Tyr		
85	90	95
Pro Pro Met His Thr Ala Glu Ile Asn Thr Pro Leu Ile Asn Gln Leu		
100	105	110

<210> 9287

<211> 452

<212> PRT

<213> B.fragilis

<400> 9287

Ile Lys Ser Tyr Tyr Ala His Asn Lys Met Phe Lys Asn Ser Lys Lys			
1	5	10	15
Lys Ile Thr Leu Gly Val Ser Val Gln Lys Phe Glu Asn Lys Pro Asn			
20	25	30	
Asn Trp Lys Ile Leu Thr Tyr Lys Arg His Thr Ile Thr Ile Glu Glu			
35	40	45	
Leu Val Asn Leu Ile Cys Lys Gly His Cys Ile Cys Gln Asn Phe Lys			
50	55	60	
Thr Thr Ser Glu Ile Phe Gly Leu Arg Glu Lys Thr Ile Ala Asn Phe			
65	70	75	80
Asp Phe Ala Asp Cys Val Ile Leu Asp Ile Asp Asp Thr Phe Leu Ser			
85	90	95	
Met Asn Asp Phe Tyr Leu Ser Leu Lys Asp Glu His Lys Pro Thr Ile			
100	105	110	
Ile Tyr Thr Thr Tyr Ser Asn Ile Asp Asn Ile Asn Asn Arg Phe Arg			
115	120	125	
Pro Ile Tyr Val Phe Asn Glu Pro Ile Arg Ser Asn Glu Tyr Tyr Arg			
130	135	140	
Gly Ile Ala Asn Thr Ile Val Tyr Asn Ile Gln Lys Glu Ile Glu Gly			
145	150	155	160
Phe Asp Leu Lys Asp Lys Thr Cys Leu Asn Ala Ser Gln Gln Phe Ala			
165	170	175	
Gly Asn Gly Asn Asp Asn Ile Val Tyr Tyr Tyr Asn Asp Asn Ile Phe			
180	185	190	
Cys Pro Thr Asp Phe Gly Phe Asp Glu Asn Ser Phe Ser Asn Ser Asp			
195	200	205	
Ser Ile Leu Lys Arg Glu Arg Lys Asn Asn Ile Gln Ile Asp Leu Glu			
210	215	220	
Ser Leu Ile Gly Asn Ser Glu Phe Met Lys Asp Phe Trp Ser Met Gly			
225	230	235	240
Tyr Lys Lys Asn Glu Glu Ile Phe Ile Arg Lys Tyr Ala Gln Ile Tyr			
245	250	255	
Pro Phe Ile Glu Ala Thr Pro Leu Pro Glu Thr Asp Ser Asp Thr Pro			
260	265	270	
Tyr Ile Leu Leu Pro Asp Asn Tyr Val Lys Ile Ala Arg Tyr Trp Tyr			
275	280	285	
Lys Glu Pro Leu Thr Lys Gly Asp Gly Thr Ile Val Tyr Lys Ser His			
290	295	300	
Ala Val Lys Leu Lys Ser Gly His Arg Arg Lys Leu Leu Tyr Asp Gly			
305	310	315	320
Cys Leu Leu Arg Lys Ile Met Leu Pro Lys Ile Thr Met Glu His Leu			

	325		330		335
Leu Tyr Cys Leu Val Cys Glu Arg Arg		Tyr Tyr Val Asp Asn Gln Asp			
340		345			350
Lys Val Ile Thr Asn Lys Ile Leu Tyr Gln Ile Ala Lys Asp Ala Trp					
355		360			365
Asn Asp Thr Lys Arg Ser Ile Asn Pro Lys Lys Glu Glu Arg Gln Phe					
370		375			380
Val Val Asn Pro Lys Tyr Cys Glu Lys Tyr Gly Ile Ser Lys Gln Ala					
385		390			400
Ala Arg Asn Ile Ala Ala Lys Ile Leu Leu Asp Leu Gln Leu Lys Gln					
405		410			415
Leu Tyr Asp Thr Asn Leu Ser Val Lys Glu Asn Leu Glu Ser Leu Lys					
420		425			430
Asn Gln Gly Ile Lys Ile Gly Lys Ser Ser Leu Tyr Asn Trp Val Lys					
435		440			445
Ser Gln Lys Ile					
450					

<210> 9288
<211> 61
<212> PRT
<213> B.*fragilis*

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<400> 9288
Cys Gly Leu Tyr Pro Ser Pro Pro Met Thr Leu Leu Tyr Ile Asn Gly
1           5           10           15
Ile Pro Ser Leu Lys Ile Asn Leu Pro Tyr Ile Val Gly Ile Ile Asn
20          25          30
Val Phe Ser Ala Ile Gly Asn Ile Leu Val Ile Trp Val Ala Ser Asp
35          40          45
Glu Tyr Ala Val Leu Val Cys Lys Ser Val Cys Ile Val
50          55          60

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<210> 9289
<211> 958
<212> PRT
<213> B.*fragilis*

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<400> 9289
Trp Asn Val Tyr Leu Asn Ser Asp Asn Met Gln Lys Leu Leu Ser Leu
1 5 10 15
Pro Pro Asn Leu Val Gln Ser Phe His Glu Leu Glu Arg Val Asn Arg
20 25 30
Thr Asp Trp Phe Cys Thr Ser Asp Pro Val Gly Lys Lys Leu Gly Ser
35 40 45
Gly Gly Gly Thr Ser Trp Leu Leu Glu Glu Cys Tyr Asn Glu Tyr Ser
50 55 60
Asp Gly Ala Thr Phe Gly Glu Trp Leu Glu Lys Glu Lys Arg Ile Leu
65 70 75 80
Leu His Ala Gly Gly Gln Ser Arg Arg Leu Pro Gly Tyr Ala Pro Ser
85 90 95
Gly Lys Ile Leu Thr Pro Val Pro Val Phe Arg Trp Glu Arg Gly Gln
100 105 110
His Leu Gly Gln Asn Leu Leu Ser Leu Gln Leu Pro Leu Tyr Glu Lys
115 120 125
Ile Met Ser Leu Ala Pro Asp Lys Leu His Thr Leu Ile Ala Ser Gly
130 135 140
Asp Val Tyr Ile Arg Ser Glu Lys Pro Leu Gln Ser Ile Pro Glu Ala
145 150 155 160

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Asp Val Val Cys Tyr Gly Leu Trp Val Asp Pro Ser Leu Ala Thr His
 165 170 175
 His Gly Val Phe Ala Ser Asp Arg Lys His Pro Glu Gln Leu Asp Phe
 180 185 190
 Met Leu Gln Lys Pro Ser Leu Ala Glu Leu Glu Ser Leu Ser Lys Thr
 195 200 205
 His Leu Phe Leu Met Asp Ile Gly Ile Trp Leu Leu Ser Asp Arg Ala
 210 215 220
 Val Glu Ile Leu Met Lys Arg Ser His Lys Glu Ser Ser Glu Glu Leu
 225 230 235 240
 Lys Tyr Tyr Asp Leu Tyr Ser Asp Phe Gly Leu Ala Leu Gly Thr His
 245 250 255
 Pro Arg Ile Glu Asp Glu Glu Val Asn Thr Leu Ser Val Ala Ile Leu
 260 265 270
 Pro Leu Pro Gly Gly Glu Phe Tyr His Tyr Gly Thr Ser Lys Glu Leu
 275 280 285
 Ile Ser Ser Thr Leu Ser Val Gln Asn Lys Val Tyr Asp Gln Arg Arg
 290 295 300
 Ile Met His Arg Lys Val Lys Pro Asn Pro Ala Met Phe Val Gln Asn
 305 310 315 320
 Ala Val Val Arg Ile Pro Leu Cys Ala Glu Asn Ala Asp Leu Trp Ile
 325 330 335
 Glu Asn Ser His Ile Gly Pro Lys Trp Lys Ile Ala Ser Arg His Ile
 340 345 350
 Ile Thr Gly Val Pro Glu Asn Asp Trp Ser Leu Ala Val Pro Ala Gly
 355 360 365
 Val Cys Val Asp Val Val Pro Met Gly Asp Lys Gly Phe Val Ala Arg
 370 375 380
 Pro Tyr Gly Leu Asp Asp Val Phe Lys Gly Asp Leu Arg Asp Ser Lys
 385 390 395 400
 Thr Thr Leu Thr Gly Ile Pro Phe Gly Glu Trp Met Ser Lys Arg Gly
 405 410 415
 Leu Ser Tyr Thr Asp Leu Lys Gly Arg Thr Asp Asp Leu Gln Ala Ala
 420 425 430
 Ser Val Phe Pro Met Val Asn Ser Val Glu Glu Leu Gly Leu Val Leu
 435 440 445
 Arg Trp Met Leu Ser Glu Pro Glu Leu Glu Glu Gly Lys Asn Ile Trp
 450 455 460
 Leu Arg Ser Glu His Phe Ser Ala Asp Glu Ile Ser Ala Gly Ala Asn
 465 470 475 480
 Leu Lys Arg Leu Tyr Ala Gln Arg Glu Glu Phe Arg Lys Gly Asn Trp
 485 490 495
 Lys Ala Leu Ala Val Asn His Glu Lys Ser Val Phe Tyr Gln Leu Asp
 500 505 510
 Leu Ala Asp Ala Ala Glu Asp Phe Val Arg Leu Gly Leu Asp Met Pro
 515 520 525
 Glu Leu Leu Pro Glu Asp Ala Leu Gln Met Ser Arg Ile His Asn Arg
 530 535 540
 Met Leu Arg Ala Arg Ile Leu Lys Leu Asp Gly Lys Asp Tyr Arg Pro
 545 550 555 560
 Glu Glu Gln Ala Ala Phe Asp Leu Leu Arg Asp Gly Leu Leu Asp Gly
 565 570 575
 Ile Ser Asn Arg Lys Ser Thr Pro Lys Leu Asp Val Tyr Ser Asp Gln
 580 585 590
 Ile Val Trp Gly Arg Ser Pro Val Arg Ile Asp Met Ala Gly Gly Trp
 595 600 605
 Thr Asp Thr Pro Pro Tyr Ser Leu Tyr Ser Gly Gly Asn Val Val Asn
 610 615 620
 Leu Ala Ile Glu Leu Asn Gly Gln Pro Pro Leu Gln Val Tyr Val Lys

625	630	635	640
Pro Cys Lys Asp Phe His Ile Val Leu Arg Ser Ile Asp Met Gly Ala			
645		650	655
Met Glu Ile Val Ser Thr Phe Asp Glu Leu Gln Asp Tyr Lys Lys Ile			
660	665	670	
Gly Ser Pro Phe Ser Ile Pro Lys Ala Ala Leu Ser Leu Ala Gly Phe			
675	680	685	
Ala Pro Ala Phe Ser Ala Val Ser Tyr Ala Ser Leu Glu Glu Gln Leu			
690	695	700	
Lys Asp Phe Gly Ala Gly Ile Glu Val Thr Leu Leu Ala Ala Ile Pro			
705	710	715	720
Ala Gly Ser Gly Leu Gly Thr Ser Ser Ile Leu Ala Ser Thr Val Leu			
725	730	735	
Gly Ala Ile Asn Asp Phe Cys Gly Leu Ala Trp Asp Lys Asn Glu Ile			
740	745	750	
Cys Gln Arg Thr Leu Val Leu Glu Gln Leu Leu Thr Thr Gly Gly Gly			
755	760	765	
Trp Gln Asp Gln Tyr Gly Gly Val Leu Gln Gly Val Lys Leu Leu Gln			
770	775	780	
Thr Glu Ala Gly Phe Ala Gln Ser Pro Leu Val Arg Trp Leu Pro Asp			
785	790	795	800
His Leu Phe Thr His Pro Glu Tyr Lys Asp Cys His Leu Leu Tyr Tyr			
805	810	815	
Thr Gly Ile Thr Arg Thr Ala Lys Gly Ile Leu Ala Glu Ile Val Ser			
820	825	830	
Ser Met Phe Leu Asn Ser Ser Leu His Leu Asn Leu Leu Ser Glu Met			
835	840	845	
Lys Ala His Ala Leu Asp Met Asn Glu Ala Ile Gln Arg Gly Ser Phe			
850	855	860	
Val Glu Phe Gly Arg Leu Val Gly Lys Thr Trp Glu Gln Asn Lys Ala			
865	870	875	880
Leu Asp Ser Gly Thr Asn Pro Pro Ala Val Glu Ala Ile Ile Asp Leu			
885	890	895	
Ile Lys Asp Tyr Thr Leu Gly Tyr Lys Leu Pro Gly Ala Gly Gly Gly			
900	905	910	
Gly Tyr Leu Tyr Met Val Ala Lys Asp Pro Gln Ala Ala Val Arg Ile			
915	920	925	
Arg Lys Ile Leu Thr Glu Asn Ala Pro Asn Pro Arg Ala Arg Phe Val			
930	935	940	
Glu Met Thr Leu Ser Asp Lys Gly Phe Gln Val Ser Arg Ser			
945	950	955	

<210> 9290

<211> 409

<212> PRT

<213> B.fragilis

<400> 9290

Leu Tyr Gly Tyr Trp Leu Ser Leu Phe Leu Ser Ser Thr Ser Leu Thr			
1	5	10	15
Trp Asp Gly Leu Ile Leu Ser Phe Gly Ser Asp Asp Val Lys Cys Gln			
20	25	30	
Leu Val Asp Asp His Arg Asn Ala Ser Arg Ser Val Ser Gly Arg His			
35	40	45	
Phe Phe Ser His Lys Asn Thr Val Leu Cys Asn Glu Pro Gln Ile Phe			
50	55	60	
Cys Tyr Phe Cys Leu Leu Ile Glu Lys Asn Thr Tyr His Met Gly			
65	70	75	80
Glu His Ile Cys Phe Arg Arg Asn Glu Arg Leu Ala Thr Val Asn Pro			

85	90	95
His Trp Arg Gly Asn Pro Val Val Arg	Gly Lys Phe Val Asn Arg Gln	
100	105	110
His Arg Phe Arg Pro Gly Met Gly Ser Val Leu Lys	Trp Arg Leu Ser	
115	120	125
Pro Asn Pro Gln Arg Lys Glu Lys Lys Ser Val Lys	Trp Ser Pro Lys	
130	135	140
Leu Asn Tyr Leu Arg Ser Leu Asp Gly Val Val	Gly Asn Ser Leu Ile	
145	150	155
Trp Leu Gly His Asn Ser Phe Phe Leu Gln Leu	Gly Arg Lys Arg Ile	
165	170	175
Met Phe Asp Pro Val Phe Gly Asp Ile Pro Phe Val	Lys Arg Gln Ser	
180	185	190
Asp Phe Pro Ala Asn Pro Asp Ile Phe Thr Asp Ile	Asp Tyr Leu Leu	
195	200	205
Ile Ser His Asp His Phe Asp His Leu Asp Lys	Gln Ser Val Ala Arg	
210	215	220
Leu Val Lys Asn Asn Pro Gly Met Lys Leu Phe Cys	Gly Leu Gly Thr	
225	230	235
Gly Glu Leu Ile Lys Gly Trp Phe Pro Glu Phe Glu	Val Thr Glu Ala	
245	250	255
Gly Trp Tyr Gln Gln Ile Glu Asp Asp Gly Leu Lys	Ile Thr Phe Leu	
260	265	270
Pro Ala Gln His Trp Ser Lys Arg Ser Val Arg Asp	Gly Gly Arg Arg	
275	280	285
Leu Trp Gly Ala Phe Met Val Gln Ala Asp Gly	Ile Ser Leu Tyr Tyr	
290	295	300
Ser Gly Asp Thr Gly Tyr Ser Arg His Phe Arg Glu	Ile Pro Asp Leu	
305	310	315
Phe Gly Ala Pro Asp Tyr Ala Leu Val Gly Ile Gly	Ala Tyr Lys Pro	
325	330	335
Arg Trp Phe Met Gln Pro Asn His Ile Ser Pro Tyr	Asp Ala Leu Thr	
340	345	350
Ala Ser Thr Asp Met Lys Ala Ala Leu Thr Ile Pro	Met His Tyr Gly	
355	360	365
Thr Phe Asp Leu Ser Asp Glu Pro Leu His Asp Pro	Pro Leu Val Phe	
370	375	380
Ala Ala Glu Ala Lys Lys Arg Lys Ile Asp Val	Tyr Ile Pro Val Leu	
385	390	395
Gly Glu Val Val Lys Leu Lys Arg Met		400
	405	

<210> 9291

<211> 142

<212> PRT

<213> B.fragilis

<400> 9291

Val Leu Ile Gln Lys Glu Asp Ile Met	Ile Lys Gln Asp Tyr Leu Ile		
1	5	10	15
Arg Met Ile Gln Glu Ile Ile Ser Leu Ile Val Asn	Ala Ile Leu Asn		
20	25	30	
Lys Lys Lys Phe Arg Lys Asp Glu Trp Thr Glu Tyr	Asp Cys Leu Thr		
35	40	45	
Arg Gln Ile Leu Gly Val Ser Gln Glu Glu Leu	Leu Ser Met Ser Leu		
50	55	60	
Asp Glu Met Ile Asp Cys Tyr Glu Gly Asp Pro Asn	Arg Met Gly Lys		
65	70	75	80
Ile Glu Leu Ala Ala Val Thr Leu Leu Lys Val Ser	Asp Glu Ala Glu		

85	90	95
Ser Asp Ile Leu Gln Lys Ser Lys Leu Arg Gln Asp Gly Leu Ser Leu		
100	105	110
Leu Lys Tyr Val Gln Lys Glu Ser Ser Thr Phe Ser Ile Gln Arg Thr		
115	120	125
Asn Leu Ile Arg Met Ile Glu Ile Asn Glu Ser Leu Lys Met		
130	135	140

<210> 9292

<211> 172

<212> PRT

<213> B.fragilis

<400> 9292

Met Ser Gln Gln Glu Tyr Trp Phe Ala Ala Arg Thr Arg Lys Asp			
1	5	10	15
Gln Glu Leu Thr Thr Arg Asp Ala Leu Glu Lys Ile Gly Val Glu Tyr			
20	25	30	
Phe Leu Pro Thr Gln Phe Val Ile Arg Gln Leu Lys Tyr Arg Arg Arg			
35	40	45	
Arg Val Glu Val Pro Ala Ile Arg Asn Leu Ile Phe Val His Ala Thr			
50	55	60	
Lys Glu Phe Ala Cys Ala Ile Ala Asn Glu Tyr Gly Val Arg Leu Phe			
65	70	75	80
Tyr Met Arg Asp Phe Asp Thr Lys Ser Met Leu Ile Val Pro Asp Lys			
85	90	95	
Gln Met Lys Asp Phe Met Phe Val Met Asn Leu Asp Pro Ala Ala Val			
100	105	110	
Ile Leu Asn Asp Asp Cys Phe Ala Val Gly Thr Lys Val Gln Val Ile			
115	120	125	
Lys Gly Asp Phe Cys Gly Val Glu Gly Glu Leu Ala Ser Leu Ser Asn			
130	135	140	
Arg Thr Tyr Val Thr Ile Arg Ile Arg Gly Val Leu Ser Ala Ser Val			
145	150	155	160
Lys Val Pro Lys Ser Tyr Leu Arg Ile Leu Ala Pro			
165	170		

<210> 9293

<211> 367

<212> PRT

<213> B.fragilis

<400> 9293

Tyr Met Lys Gln Phe Ile Ala Phe Val Lys Lys Glu Phe Phe His Ile			
1	5	10	15
Phe Arg Asp Arg Arg Thr Met Leu Ile Leu Leu Gly Met Pro Val Val			
20	25	30	
Gln Ile Ile Leu Phe Gly Phe Ala Ile Thr Thr Glu Val Lys Asn Val			
35	40	45	
Arg Val Gly Val Leu Asp Pro Ser Asn Asp Ile Val Thr Arg Lys Ile			
50	55	60	
Ile Asp Arg Leu Asp Ala Ser Glu Tyr Phe Ser Val Lys Cys Leu Leu			
65	70	75	80
His Ser Pro Gln Glu Met Glu Arg Ala Phe Gln Glu Asn Glu Ile Asp			
85	90	95	
Met Ala Leu Val Phe Ser Glu Gln Phe Ala Asp Arg Leu Tyr Thr Gly			
100	105	110	
Asp Ala Arg Val Gln Val Val Ser Asp Ala Thr Asp Pro Asn Met Ala			
115	120	125	

Thr Thr Gln Ala Gly Tyr Ala Thr Gly Val Ile Ala Ala Val Arg Gln
 130 135 140
 Glu Met Leu Pro Pro Gly Met Ser Val Pro Ser Val Val Pro Asn Val
 145 150 155 160
 Lys Leu Leu Tyr Asn Pro Gln Met Lys Ser Ala Tyr Asn Phe Val Pro
 165 170 175
 Gly Val Met Gly Leu Ile Leu Met Leu Ile Cys Ala Met Met Thr Ser
 180 185 190
 Ile Ser Ile Val Arg Glu Lys Glu Thr Gly Thr Met Glu Ile Leu Leu
 195 200 205
 Val Ser Pro Val Lys Pro Leu Phe Ile Ile Leu Ala Lys Ala Val Pro
 210 215 220
 Tyr Phe Val Leu Ser Phe Val Asn Leu Thr Thr Ile Leu Leu Leu Ser
 225 230 235 240
 Val Tyr Val Leu Asp Val Pro Val Ala Gly Ser Leu Phe Trp Leu Ile
 245 250 255
 Met Val Ser Leu Leu Ile Phe Val Ser Leu Ser Leu Gly Leu Leu
 260 265 270
 Ile Ser Thr Val Thr Arg Thr Gln Val Ala Ala Met Leu Ala Ser Gly
 275 280 285
 Leu Val Leu Met Met Pro Thr Met Leu Leu Ser Gly Met Ile Phe Ser
 290 295 300
 Ile Glu Ser Met Pro Leu Val Leu Gln Leu Ile Ser Asp Ile Leu Pro
 305 310 315 320
 Ala Arg Trp Tyr Ile Gln Ala Ala Arg Lys Leu Met Ile Glu Gly Val
 325 330 335
 Asp Ile Ser Leu Val Trp Thr Glu Val Ser Ile Leu Ala Leu Met Ala
 340 345 350
 Val Leu Leu Ile Thr Ile Ser Phe Lys Lys Phe Lys Asn Arg Leu
 355 360 365

<210> 9294

<211> 179

<212> PRT

<213> B.fragilis

<400> 9294

Leu Gly Arg His Arg Ser Gln Trp Leu Glu Thr Ala Ser Leu Leu Pro
 1 5 10 15
 Lys Met Trp Ser Leu Gln Asp Gln Tyr Asp Gln Phe Ala Gly Asn Arg
 20 25 30
 Gly Ser Ser Ser Arg Ile Ser Arg Leu Ala Thr Ser Arg Gly Thr Ile
 35 40 45
 Gly Glu Ser Val Thr Ser Phe Arg Leu Ser Val Val Leu Tyr Leu Gln
 50 55 60
 Asn Met Pro Lys Pro Gly Lys Leu Ala Ala Val Gly Asn Pro Leu Leu
 65 70 75 80
 Lys Val Ala Asp Ile Asp Gln Met Tyr Leu Arg Ala Tyr Ile Thr Ser
 85 90 95
 Glu Gln Leu Ser Leu Val Lys Leu Gly Asn Arg Val Thr Val Phe Ser
 100 105 110
 Asp Met Arg Gly Glu Glu Arg Lys Glu Tyr Pro Gly Val Val Thr Trp
 115 120 125
 Ile Ser Asp Arg Ser Glu Phe Thr Pro Lys Thr Ile Leu Thr Lys Glu
 130 135 140
 Glu Arg Ala Asn Leu Val Tyr Ala Val Lys Ile Ala Val Lys Asn Glu
 145 150 155 160
 Trp Thr Ser Glu Asp Arg Tyr Val Arg Arg Ser Glu Val Ile Asn Asp
 165 170 175

Ala Cys Leu

<210> 9295

<211> 117

<212> PRT

<213> B.fragilis

<400> 9295

His Ile Leu Asn Thr Cys Asn Leu Phe Thr Leu Glu Ile Val Lys Asn
 1 5 10 15

Met Thr Phe Ile His Phe Met Gln Tyr Asn Ser Tyr Phe Cys Asn Lys
 20 25 30

Ala Ile Leu Ile Met Thr Glu Lys Glu Lys Lys Glu Arg Thr Val Ile
 35 40 45

His Leu Tyr Ile Lys Glu Asn Asp Thr His His Tyr Phe Gly Ser Ile
 50 55 60

Ala Asn Val Phe Glu Tyr Phe Ser Pro Glu Glu Leu Gly Ile Thr Tyr
 65 70 75 80

Gly Ser Leu Arg Asn Tyr Gly Leu Ser Asn Glu Asn Ser Tyr Gln Asn
 85 90 95

Ser Lys Cys Ile Ile Arg Lys Gly Ile Leu Leu Ser Lys Ser Gly Asn
 100 105 110

Arg Gly Lys Asn Arg
 115

<210> 9296

<211> 93

<212> PRT

<213> B.fragilis

<400> 9296

Phe Val Ser Lys Ser Phe Asp Leu Asn Leu Lys Asn Arg Lys Ile Thr
 1 5 10 15

Lys Lys Trp Gly Arg Thr Asp Ala Phe Tyr Lys Thr Asn Leu Leu Lys
 20 25 30

Asn Ala Ile Pro Gly Thr Glu Met Phe Glu Arg Gln Thr Val Thr Cys
 35 40 45

Leu Pro Ala Tyr Lys His Ala Phe Ile Gln Leu Ala Leu Ser Ser Arg
 50 55 60

Gly Lys Ala Val Leu Ser Ser Ile Cys Ile Val Leu Arg Asp Asn Ala
 65 70 75 80

Arg Ser Asn Lys Thr Ala Glu Leu Leu Tyr Arg Phe Ile
 85 90

<210> 9297

<211> 116

<212> PRT

<213> B.fragilis

<400> 9297

Ser Ile Tyr Asn Asn Asp Met Gln Ala Ile Ile Leu Ser Ser Asn Thr
 1 5 10 15

Ala Ile Arg Ala Glu Val Ile Thr Ile Arg Thr Asn Ala Arg Lys Ile
 20 25 30

Asp Gly Ile Ser Lys Ala Val Leu Ile Glu Gln Leu Lys Glu Lys Leu
 35 40 45

Lys Ser Gly Lys Ile Val Lys Phe Thr Tyr Leu Lys Ser Asn Gly Glu
 50 55 60

Val Arg Val Ala Phe Gly Thr Thr His Pro Asp Phe Val Lys Asp Lys
 65 70 75 80
 Val Cys Gly Trp Gly Ala Ser Arg Glu Ser Tyr Ala Thr Thr Ala Tyr
 85 90 95
 Phe Asp Leu Glu Lys Cys Asp Trp Arg Ser Phe Arg Trp Glu Asn Leu
 100 105 110
 Ile Ala Val Phe
 115

<210> 9298

<211> 424

<212> PRT

<213> B.fragilis

<400> 9298

Leu Asn Asp Lys Asn Met Lys Arg Gln Ile Val Ser Cys Gly Ile Phe
 1 5 10 15
 Ala Met Leu Leu Ala Ser Cys Asn Gly Ala Gln Gln Thr Ser Glu
 20 25 30
 Val Asp Leu Ile Asp Ile Ala Gly Gly Met Glu Lys Leu Thr Glu Leu
 35 40 45
 Lys Val Ser Asp Leu Gly Lys Thr Ile Arg Tyr Ile Pro Leu Glu Thr
 50 55 60
 Thr Asp Ser Cys Leu Ile Gly Asp Phe Pro Asn Ile Lys Leu Leu Asp
 65 70 75 80
 Asp Lys Ile Met Val Tyr Asn Gly Lys Gln Cys Leu Leu Phe Asp Lys
 85 90 95
 Glu Thr Gly Lys Phe Ile Cys Ser Val Gly His Arg Gly Asp Asp Pro
 100 105 110
 Glu Ala Tyr Ser Ser Thr Cys Gly Tyr Leu Asn Ser Lys Asn Gln Leu
 115 120 125
 Leu Tyr Phe Asn Arg Asp Pro Asn Gln Leu Val Lys Tyr Asp Gln Lys
 130 135 140
 Gly Asn Phe Ala Gly Val Ile Thr Ile Pro Ser Pro Glu Thr Ser Thr
 145 150 155 160
 Gly Asn Ile Gln Ile Asn Arg Pro Gly Met Asn Gly Phe Val Phe Ser
 165 170 175
 Asp Ser Ile Ile Ile Gly His Tyr Val Gly Gly Leu Gly Gln Arg Cys
 180 185 190
 Pro Ser Ser Val Leu Tyr Phe Ser Asp Lys Gly Asn Tyr Ile Asp Thr
 195 200 205
 Ile Pro Asn Ile Ile Pro Glu Leu Gly Thr Gly Gln Val Gly Asp Ile
 210 215 220
 Asn Asn Ile Ser Val Arg Lys Gly Phe Gly Leu Leu Glu Gly Ile Ile
 225 230 235 240
 Gln Ile Gln Tyr Asn Asn Gly Lys Gln Ser Ile Cys Val Pro Gly Tyr
 245 250 255
 Thr Ala Leu Trp Lys Cys Asn Asp Glu Ile Arg Phe Lys Glu Leu Phe
 260 265 270
 Thr Asp Thr Ile Tyr Thr Leu Lys His Asn Gln Leu Glu Lys Tyr Ile
 275 280 285
 Ile Phe Asn Thr Gly Lys Tyr Tyr Trp Pro Ala Ser Glu Arg Thr Leu
 290 295 300
 Thr Asp Asn Asn Ser Asp Arg Ile Met Ile Ser Tyr Ala Ile Glu Asn
 305 310 315 320
 Asp Lys Leu Leu Tyr Phe Gln Phe Ile Arg Gly Leu Tyr Thr Asp Lys
 325 330 335
 His Ile Leu Tyr Asn Gly Ile Tyr Asp Lys Asn Thr Lys Val Thr Asn
 340 345 350

Ile Ala Leu Ala Glu Lys Asn Phe Val Asp Asp Leu Thr His Phe Met
 355 360 365
 Pro Phe Thr Pro Ser Phe Leu Asn Glu Lys Gly Glu Cys Ala Ser Leu
 370 375 380
 Val Gln Ala Ala Asp Ile Leu Thr Trp Leu Glu Glu His Pro Glu Val
 385 390 395 400
 Lys Ile Glu Lys Glu Leu Gly Val Leu Lys Asn Leu Asn Glu Glu Ser
 405 410 415
 Asn Pro Val Val Val Leu Val Lys
 420

<210> 9299

<211> 485

<212> PRT

<213> B.fragilis

<400> 9299

Ile Cys Pro Lys Phe Val Ile Lys Met Lys Thr Ser His Ile Ser Thr
 1 5 10 15
 Leu Ala Phe Ala Ile Leu Phe Ser Ser Ser Val Met Ala Gln Lys Thr
 20 25 30
 Asn Lys Pro Val Ser Glu Thr Val Gln Ser Glu Val Lys Ala Asp Thr
 35 40 45
 Leu Ser Glu Thr Leu Gln Gln Tyr Leu Val Leu Lys Leu Asn Leu Asp
 50 55 60
 Gly Pro Lys Pro Lys Ile Asp Thr Val Ser Ile Leu Tyr Asn Lys Tyr
 65 70 75 80
 Ile Gly Glu Leu Glu Tyr Leu Asn Asp Pro Ser Val Pro Met Arg Tyr
 85 90 95
 Ile Lys Thr Asp Pro Asp Tyr Tyr Arg Leu Phe Val Pro Leu Thr Tyr
 100 105 110
 Tyr Asn Ser Pro Ile Ala Glu Tyr Ser Thr Met His Trp Lys Phe Lys
 115 120 125
 Glu Pro Phe Val Thr Pro Ser Leu Ser Ser Gln Leu Leu Pro Pro Tyr
 130 135 140
 Asp Thr Leu Gln Phe Ser Lys Ala Glu Arg Ala Ser Arg Leu Val Asn
 145 150 155 160
 Val Ala Leu Met Asp Leu Tyr Leu Asn His Pro Asn Leu Val Val Asn
 165 170 175
 Thr Glu Asp His Ile Met Ser Arg Lys Leu Tyr His Gly Asp Lys Lys
 180 185 190
 Ile Glu Val Pro Lys Thr Glu Val Lys Ser Leu Phe Arg Ala Asp Lys
 195 200 205
 Val Glu Asp Asn Val Gly Glu Ala Glu Met Val Ile Ser Lys Pro Asn
 210 215 220
 Trp Trp Val Thr Gly Gly Asn Gly Ser Leu Gln Ile Thr Gln Asn Tyr
 225 230 235 240
 Ile Ser Asp Asn Trp Tyr Lys Gly Gly Glu Ser Asn Asn Ala Val Met
 245 250 255
 Ala Asn Leu Gln Leu Phe Ala Asn Tyr Asn Asp Arg Glu Lys Val Gln
 260 265 270
 Phe Glu Asn Leu Phe Glu Ala Lys Leu Gly Phe Asn Ser Ser Pro Ser
 275 280 285
 Asp Glu Tyr His Lys Tyr Leu Val Asn Thr Asp Gln Leu Arg Leu Tyr
 290 295 300
 Ser Lys Leu Gly Ile Gln Ala Ala Asn Asn Trp Tyr Tyr Thr Ile Thr
 305 310 315 320
 Gly Glu Phe Lys Thr Gln Phe Val Lys Gly Tyr Lys Ala Asn Ser Glu
 325 330 335

Glu Leu Val Ala Ala Phe Leu Ala Pro Ala Asp Val Ile Val Ser Val
 340 345 350
 Gly Met Asp Tyr Lys Leu Lys Lys Lys Phe Asn Leu Ser Val Phe
 355 360 365
 Met Ser Pro Leu Thr Tyr Asn Leu Arg Tyr Ile Gly Asn Lys Asn Val
 370 375 380
 Asp Glu Thr Lys Phe Gly Leu Asp Lys Gly Lys Cys Ser Lys Asn Asp
 385 390 395 400
 Phe Gly Ala Gln Val Gln Pro Thr Ile Ser Trp Thr Ile Ile Pro Ser
 405 410 415
 Ile Val Val Asp Ser Arg Leu Asn Tyr Leu Thr Asn Tyr Lys Trp Val
 420 425 430
 Arg Val Glu Trp Glu Asn Thr Phe Asn Phe Val Leu Asn Arg Tyr Leu
 435 440 445
 Ser Thr Lys Leu Phe Val His Ala Arg Phe Asp Asp Ser Ala Lys Pro
 450 455 460
 Thr Thr Gly Ser Ser Tyr Phe Gln Leu Lys Glu Leu Leu Ser Phe Gly
 465 470 475 480
 Leu Asn Tyr Lys Trp
 485

<210> 9300

<211> 447

<212> PRT

<213> B.fragilis

<400> 9300

Thr Asp Tyr Asn Met Thr Thr Lys Tyr Thr Tyr Lys Glu Ile Trp Ile
 1 5 10 15
 Ile Ala Tyr Pro Ile Leu Ile Ser Leu Ile Met Glu Gln Leu Ile Gly
 20 25 30
 Met Thr Asp Thr Ala Phe Leu Gly Arg Val Gly Glu Val Glu Leu Gly
 35 40 45
 Ala Ser Ala Ile Ala Gly Val Tyr Tyr Leu Ala Ile Phe Met Met Ala
 50 55 60
 Phe Gly Phe Ser Ile Gly Ala Gln Ile Leu Ile Ala Arg Arg Asn Gly
 65 70 75 80
 Glu Gln Gln Tyr Gln Ala Ile Gly Pro Ile Phe Tyr Gln Gly Val Tyr
 85 90 95
 Phe Leu Leu Ser Leu Ala Val Val Ala Phe Thr Leu Ser Leu Cys Phe
 100 105 110
 Ser Pro His Ile Leu Lys Lys Val Ile Ser Ser Glu His Ile Tyr Asp
 115 120 125
 Ala Ser Ile Ser Tyr Ile Asn Trp Arg Val Phe Gly Phe Phe Ser
 130 135 140
 Phe Val Gly Val Met Phe Arg Ala Phe Phe Val Gly Thr Thr Gln Thr
 145 150 155 160
 Lys Thr Leu Thr Leu Asn Ser Val Val Met Val Leu Ser Asn Val Val
 165 170 175
 Phe Asn Tyr Ile Leu Ile Phe Gly Lys Phe Gly Ala Pro Gln Leu Gly
 180 185 190
 Ile Ala Gly Ala Ala Ile Gly Ser Ser Leu Ala Glu Met Val Ser Val
 195 200 205
 Ile Phe Phe Val Ile Tyr Thr Trp Lys Arg Ile Asp Cys Lys Lys Tyr
 210 215 220
 Ala Leu Asn His Leu Pro Gly Phe Arg Pro Glu Met Leu Lys Arg Ile
 225 230 235 240
 Leu Asn Val Ser Phe Trp Thr Met Ile Gln Asn Phe Phe Ser Leu Ser
 245 250 255

Thr Trp Phe Met Phe Phe Leu Phe Val Glu His Leu Gly Glu Arg Ala
 260 265 270
 Leu Ala Ile Thr Asn Ile Ile Arg Asn Val Ser Gly Ile Pro Phe Met
 275 280 285
 Val Thr Met Ala Phe Ala Ala Thr Cys Gly Ser Leu Val Ser Asn Leu
 290 295 300
 Ile Gly Ala Gly Glu Ile Lys Cys Val Pro Gly Thr Ile Arg Gln His
 305 310 315 320
 Ile Arg Ile Gly Tyr Ile Phe Val Leu Pro Leu Val Ile Leu Phe Ala
 325 330 335
 Leu Phe Pro Asn Leu Ile Leu Ser Ile Tyr Thr Asp Ile Pro Asp Leu
 340 345 350
 Arg Glu Ala Ser Ile Pro Ser Leu Trp Val Leu Cys Ser Ala Tyr Leu
 355 360 365
 Ile Leu Val Pro Ala Asn Val Tyr Phe Gln Ala Val Ser Gly Thr Gly
 370 375 380
 Asn Thr Arg Thr Ala Leu Gly Leu Glu Leu Cys Val Leu Ala Ile Tyr
 385 390 395 400
 Leu Ile Tyr Ile Thr Tyr Met Ile Leu Tyr Leu Arg Val Asp Val Ala
 405 410 415
 Val Cys Trp Thr Thr Glu His Leu Tyr Gly Ile Cys Ile Leu Phe Leu
 420 425 430
 Ser Tyr Leu Tyr Ile Lys Lys Gly Asn Trp Gln Lys Lys Gln Ile
 435 440 445

<210> 9301

<211> 150

<212> PRT

<213> B.fragilis

<400> 9301

Arg Ile Leu Asn Ile Lys Ser Phe Ile Met Val Ala Lys Gln Leu Ser
 1 5 10 15
 Ile Phe Leu Glu Asn Lys Ser Gly Arg Leu Thr Glu Val Thr Glu Val
 20 25 30
 Leu Ala Lys Glu Gly Ile Asn Leu Ser Ala Leu Cys Ile Ala Glu Asn
 35 40 45
 Ala Asp Phe Gly Ile Leu Arg Gly Ile Val Ser Asp Pro Asp Lys Ala
 50 55 60
 Tyr Lys Ala Leu Lys Asp Asn His Phe Ala Val Asn Val Thr Glu Val
 65 70 75 80
 Val Gly Ile Asn Cys Pro Asn Val Pro Gly Ala Leu Ala Lys Val Leu
 85 90 95
 Gln Tyr Leu Ser Asn Glu Gly Val Phe Ile Glu Tyr Met Tyr Ser Phe
 100 105 110
 Ala Asn Asn Asn Ser Ala Asn Val Ile Ile Arg Pro Asn Asp Met Glu
 115 120 125
 Asn Cys Ile Arg Val Leu Thr Glu Lys Lys Val Asp Leu Leu Ala Ala
 130 135 140
 Ser Asp Leu Tyr Lys Leu
 145 150

<210> 9302

<211> 363

<212> PRT

<213> B.fragilis

<400> 9302

Lys Glu Ile Lys Met Lys Lys Thr Leu Thr Val Asn Leu Gly Gly Thr

1	5	10	15
Val Phe His Ile Asp Glu Asp Ala Tyr Arg Leu Leu Asp Asn Tyr Leu			
20	25	30	
Cys Asn Leu Arg Leu His Phe Arg Lys Gln Glu Gly Ala Glu Glu Ile			
35	40	45	
Val Asn Asp Ile Glu Asn Arg Ile Ser Glu Leu Phe Ala Glu Lys Leu			
50	55	60	
Ser Ala Gly Ser Gln Val Ile Thr Ile Ala Asp Val Glu Glu Val Ile			
65	70	75	80
Ala Arg Met Gly Lys Pro Glu Asp Phe Gly Glu Asp Thr Glu Glu Glu			
85	90	95	
Glu Pro Lys Lys Thr Thr Gly Gln Thr Gly Ala Gln Gln Gly Ala Thr			
100	105	110	
Ile Arg Arg Arg Leu Tyr Arg Asn Pro Asp Asp Lys Ile Leu Gly Gly			
115	120	125	
Val Ile Ser Gly Leu Ala Ala Tyr Leu Asn Trp Asp Val Thr Val Leu			
130	135	140	
Arg Leu Ile Met Phe Val Val Leu Ile Cys Gly Tyr Gly Val Leu Ile			
145	150	155	160
Pro Ile Tyr Ile Ile Cys Gly Val Val Ile Pro Glu Ala Arg Thr Ala			
165	170	175	
Ala Asp Lys Leu Asn Met Pro Gly Glu Asp Ile Thr Ile Glu Asn Ile			
180	185	190	
Gly Thr Thr Val Thr Asp Gly Phe Asp Arg Met Ala Asn Gly Val Asn			
195	200	205	
Asn Tyr Val Asn Ser Gly Lys Pro Arg Ser Phe Leu Gln Lys Val Arg			
210	215	220	
Asp Ala Leu Val Ser Ile Ala Gly Phe Leu Leu Lys Ala Cys Leu Val			
225	230	235	240
Val Leu Ala Ile Ile Cys Ser Pro Val Leu Phe Val Leu Ala Ile Asp			
245	250	255	
Val Val Ala Leu Val Ile Ala Ala Ile Ala Val Ala Ile Gly Gly Gly			
260	265	270	
Ala Ala Leu Tyr Gln Met Leu Pro Ser Val Asp Trp Ser Pro Leu Ile			
275	280	285	
Ser Thr Ser Pro Met Met Thr Ile Ala Gly Ser Ile Ala Gly Val Val			
290	295	300	
Leu Ala Gly Ile Pro Leu Thr Ala Ile Ile Phe Val Ile Leu Arg Gln			
305	310	315	320
Ile Phe Asn Trp Ser Pro Met Ser Ser Gly Leu Lys Trp Ser Leu Leu			
325	330	335	
Ile Ile Trp Ile Leu Ala Val Val Ile Phe Val Ile Asn Leu Ser Tyr			
340	345	350	
Leu Gly Trp Pro Tyr Pro Phe Leu Trp Val Gly			
355	360		

<210> 9303

<211> 259

<212> PRT

<213> B.fragilis

<400> 9303

Tyr Met Gln Lys Leu Leu Phe Leu Phe Leu Leu Pro Leu Ile Pro Phe			
1	5	10	15
Ser Phe Pro Cys His Ala Gln Thr Thr Tyr Arg Met Val Thr Arg Asn			
20	25	30	
Tyr Ser Pro Val Thr Asp Ser Tyr Pro Gln Glu Val Ser Asn Phe Lys			
35	40	45	
Lys Ala Asp Ser Val Tyr Tyr Phe Thr Val Lys Val Ser Lys Ala Tyr			

50	55	60
Asp Asp Thr Leu Lys Arg Lys Val Ala Glu Lys Val Leu Tyr Ser Pro		
65	70	75
Asn Asp Ile Tyr Asp Gly Glu Val Ala Ser Tyr Leu Asn Pro Thr Arg		80
85	90	95
Leu Ile Asp Tyr Ser Ser Pro Thr Ile Glu Leu Ile Thr Asp Ser Leu		
100	105	110
Phe Lys Gly Glu Asp Ser Ile Met Thr Ile Ile Arg Lys Gly Leu Glu		
115	120	125
Phe Val Ser His Tyr Ile Ser Phe Asp Asp Ser Leu Ala Met Ala Ile		
130	135	140
Ser Arg Gly Asp Cys Lys Thr Leu Asp Val Asn His Ile Leu Gln Arg		
145	150	155
Lys Lys Gly Thr Cys Ser Glu Tyr Thr Asn Leu Phe Thr Ala Leu Met		160
165	170	175
Arg Lys Lys Gly Ile Pro Cys Arg Phe Val Ala Gly Phe Ile Phe Ile		
180	185	190
Pro Glu Gln Lys Phe Tyr Gly Cys His Ala Trp Ala Glu Cys Tyr Leu		
195	200	205
Lys Gln Tyr Gly Trp Met Ala Val Asp Pro Gln Ser Gly Lys Ser Trp		
210	215	220
Leu Pro Thr Thr Ile Ile Arg Leu Phe Ala Gly Thr Asp Tyr Thr Asp		
225	230	235
Cys Gly Leu Asn Ser Phe Met Asp Leu Val Pro Lys Ser Ile Glu Ile		240
245	250	255
Val Lys Glu		

<210> 9304

<211> 237

<212> PRT

<213> B.fragilis

<400> 9304

Leu Arg Met Lys Arg Asp Gln Leu Lys Ser Leu Leu Leu Gly Ala Ile		
1	5	10
Leu Leu Ala Gly Ile Thr Leu Pro Ala Lys Ala Gln Ile Gly Glu Gln		15
20	25	30
Arg His Asn Phe Ala Ile Gly Ile Asn Gly Gly Ala Asn Tyr Ser Thr		
35	40	45
Val Ser Phe Gln Pro Thr Ile Lys Gln Asn Gly Leu Leu Gly Ile Thr		
50	55	60
Gly Gly Val Thr Ala Arg Tyr Ile Ser Glu Lys Tyr Phe Ala Met Ile		
65	70	75
Cys Gly Ala Gln Leu Glu Leu Asn Phe Ser Gln Arg Gly Trp Asp Glu		80
85	90	95
Lys Phe Asp Pro Glu Gln Gly Phe Ser Ser Glu Asp Ser Tyr Val Arg		
100	105	110
Thr Met Asn Tyr Leu Glu Ile Pro Phe Leu Ala His Leu Ala Phe Gly		
115	120	125
Lys Asp Lys Gly Val Gln Phe Phe Val Asn Leu Gly Pro Gln Ile Gly		
130	135	140
Leu Leu Leu Asn Glu Ser Glu Lys Arg Lys Gly Thr Trp Glu Thr Ala		
145	150	155
Asn Arg Ala Pro Asn Glu Gln Tyr Gly Lys Trp Val Glu Asn Lys Phe		160
165	170	175
Asp Tyr Gly Ile Val Gly Gly Gly Ile Glu Val Arg Thr Lys Ala		
180	185	190
Gly Asn Phe Leu Leu Glu Gly Arg Tyr Tyr Phe Gly Leu Ala Asp Phe		

195	200	205
Tyr Asn Ser Thr Lys Lys Asp	Tyr Phe Ser Arg Ser Ala Asn Ser Thr	
210	215	220
Ile Thr Ala Lys Ile Thr Tyr Leu Phe Asp Ile Lys Lys		
225	230	235

<210> 9305

<211> 200

<212> PRT

<213> B.fragilis

<400> 9305

Leu Lys Glu Asn Ile Met Ser Leu Lys Asn Ser Tyr Val Thr Ser Asp			
1	5	10	15
Tyr Ile Glu Trp Asp Thr Met Leu Ser Leu Val Arg Lys Leu Tyr Arg			
20	25	30	
Asp Lys Glu Tyr Arg Met Ser Leu Leu Ile Gly Cys Gly Ser Phe Phe			
35	40	45	
Gly Leu Arg Ile Ser Asp Ile Leu Thr Leu Thr Trp Ser Met Leu Leu			
50	55	60	
Asp Asp Glu Lys Phe Val Ile Ile Glu Lys Lys Thr Gly Lys Arg Arg			
65	70	75	80
Glu Ile Lys Ile Asn Ser Asn Phe Gln Lys His Ile Ala Asp Cys Tyr			
85	90	95	
Met Ala Leu Gly Val Thr Asp Lys Asn Glu Lys Cys Phe Leu Ser Arg			
100	105	110	
Lys Lys Thr Val Tyr Ser Thr Gln Arg Ile Asn Val Leu Phe Lys Ser			
115	120	125	
Ile Lys Ser Lys Tyr Gly Leu Lys Val Glu His Phe Ser Thr His Ser			
130	135	140	
Met Arg Lys Thr Phe Gly Arg Lys Val Val Glu Ala Ala Gly Glu Asn			
145	150	155	160
Ser Glu Phe Ala Leu Ile Lys Leu Ser Glu Leu Phe Asn His Ala Asp			
165	170	175	
Val Met Thr Thr Arg Arg Tyr Leu Gly Leu Arg Thr Gln Glu Leu Leu			
180	185	190	
Glu Thr Tyr Asp Met Leu Ser Phe			
195	200		

<210> 9306

<211> 546

<212> PRT

<213> B.fragilis

<400> 9306

Trp Lys Ile Asp Asn Arg Glu Leu Ser Leu Pro Thr Phe Cys Gly Cys			
1	5	10	15
Ala Gln Pro Ser Thr Ile His Phe Leu Tyr Phe Asn Lys Ile Gln Met			
20	25	30	
Ala Glu Gln Arg Arg Asn Thr Arg Ser Thr Ala Lys Ser Lys Val Gln			
35	40	45	
Pro Val Asn Asp Tyr Gly Arg Ile Gln Pro Gln Ala Pro Glu Leu Glu			
50	55	60	
Glu Ala Val Leu Gly Ala Leu Met Ile Glu Lys Asp Ala Tyr Ser Leu			
65	70	75	80
Val Ser Glu Ile Leu Arg Pro Glu Ser Phe Tyr Glu His Arg His Gln			
85	90	95	
Leu Ile Tyr Ala Ala Ile Thr Asp Leu Ala Val Asn Gln Lys Pro Val			
100	.	105	110

Asp Ile Leu Thr Val Lys Glu Gln Leu Ser Lys Arg Gly Glu Leu Glu
 115 120 125
 Glu Val Gly Gly Pro Phe Tyr Ile Thr Gln Leu Ser Ser Lys Val Ala
 130 135 140
 Ser Ser Ala His Ile Glu Tyr His Ala Arg Ile Ile Ala Gln Lys Tyr
 145 150 155 160
 Leu Ala Arg Glu Leu Ile Thr Phe Thr Ser Asn Ile Gln Ser Lys Ala
 165 170 175
 Phe Asp Glu Thr Leu Asp Val Asp Asp Leu Met Gln Glu Ala Glu Gly
 180 185 190
 Lys Leu Phe Glu Ile Ser Gln Arg Asn Met Lys Lys Asp Tyr Thr Gln
 195 200 205
 Ile Asn Pro Ile Ile Ala Glu Ala Tyr Glu Gln Ile Gln Lys Ala Ala
 210 215 220
 Ala Arg Thr Asp Gly Leu Ser Gly Leu Glu Ser Gly Tyr Thr Lys Leu
 225 230 235 240
 Asp Lys Met Thr Ser Gly Trp Gln Lys Ser Asp Leu Ile Ile Ala
 245 250 255
 Ala Arg Pro Ala Met Gly Lys Thr Ala Phe Val Leu Ser Met Ala Lys
 260 265 270
 Asn Ile Ala Val Asn Phe Arg Asn Pro Val Ala Leu Phe Ser Leu Glu
 275 280 285
 Met Ser Asn Val Gln Leu Val Asn Arg Leu Ile Ser Asn Val Cys Glu
 290 295 300
 Ile Pro Ser Glu Lys Ile Lys Ser Gly Gln Leu Ala Ala Tyr Glu Trp
 305 310 315 320
 Gln Gln Leu Asp Tyr Lys Leu Lys Asp Leu Leu Asp Ala Pro Leu Tyr
 325 330 335
 Val Asp Asp Thr Pro Ser Leu Ser Val Phe Glu Leu Arg Thr Lys Ala
 340 345 350
 Arg Arg Leu Val Arg Glu His Gly Val Arg Ile Ile Ile Asp Tyr
 355 360 365
 Leu Gln Leu Met Asn Ala Ser Gly Met Ala Phe Gly Ser Arg Gln Glu
 370 375 380
 Glu Val Ser Thr Ile Ser Arg Ser Leu Lys Gly Leu Ala Lys Glu Leu
 385 390 395 400
 Asn Ile Pro Ile Ile Ala Leu Ser Gln Leu Asn Arg Gly Val Glu Ser
 405 410 415
 Arg Glu Gly Leu Glu Gly Lys Arg Pro Gln Leu Ser Asp Leu Arg Glu
 420 425 430
 Ser Gly Ala Ile Glu Gln Asp Ala Asp Met Val Cys Phe Ile His Arg
 435 440 445
 Pro Glu Tyr Tyr Lys Ile Phe Gln Asp Asp Lys Gly Asn Asp Leu Arg
 450 455 460
 Gly Met Ala Glu Ile Ile Ala Lys His Arg Asn Gly Ala Val Gly
 465 470 475 480
 Asp Val Leu Leu Arg Phe Lys Gly Glu Tyr Thr Arg Phe Gln Asn Pro
 485 490 495
 Asp Asp Asp Met Val Ile Pro Leu Pro Asp Ala Gly Ala Met Leu Gly
 500 505 510
 Ser Arg Met Asn Asn Thr Gly Thr Val Pro Pro Pro Pro Ala Glu Phe
 515 520 525
 Ala Pro Gln Asn Ser Asn Pro Phe Gly Gly Glu Asn Asp Gly Pro Leu
 530 535 540
 Pro Phe
 545

<210> 9307

<211> 105

<212> PRT
 <213> B.fragilis

<400> 9307

Asn	Glu	Asp	Asp	Met	Lys	Arg	Tyr	Asn	Lys	Gln	Gln	Val	Met	Lys	Asp
1				5					10				15		
Ala	His	Arg	Leu	Tyr	Lys	Asn	Asp	Phe	Gln	Arg	Arg	Gly	Arg	Ser	Trp
				20				25				30			
Gly	Glu	Cys	Leu	Lys	Ala	Ala	Trp	Ser	Trp	Glu	Lys	Asp	Ala	Val	Arg
				35				40			45				
Val	Arg	Glu	Glu	Lys	Ala	Ala	Arg	Leu	Asp	Ala	Met	Ile	Ala	Ala	Ser
				50				55			60				
Trp	Ala	Ala	His	Asn	Ala	His	Lys	Asn	Glu	Lys	Ser	Asn	Lys	Lys	Glu
				65				70		75			80		
Phe	Glu	Asp	Leu	Ser	Ser	Asp	Ala	Val	Ser	Tyr	Ala	Met	Gly	Tyr	Gly
				85				90			95				
Arg	Gly	Asn	Gly	Phe	Tyr	Cys	Gly	Asp							
				100				105							

<210> 9308

<211> 244
 <212> PRT
 <213> B.fragilis

<400> 9308

Gln	Arg	Leu	Glu	Gln	Gly	Val	Ala	Pro	Phe	Phe	Met	Leu	Ser	Asn	Gln
1				5				10			15				
Leu	Ser	His	Gln	Ile	Leu	Ile	Phe	Ala	Gln	His	Pro	Glu	Tyr	Arg	Lys
				20				25			30				
Met	Lys	Ile	Val	Leu	Met	Gly	Ile	Pro	Leu	Leu	Ile	Val	Leu		
				35				40			45				
Val	Ile	Thr	Ile	Tyr	Val	Cys	Asn	Arg	Thr	Ile	Gln	Lys	Asn	Ser	Glu
				50				55			60				
Thr	Tyr	Ile	Tyr	Ser	Thr	Val	Ser	Asp	Ile	Pro	Tyr	Asn	Lys	Val	Gly
				65				70		75			80		
Leu	Leu	Leu	Gly	Thr	Ser	Pro	Lys	Leu	Lys	Ser	Gly	Lys	Ala	Asn	Leu
				85				90			95				
Tyr	Phe	Asp	Tyr	Arg	Ile	Lys	Ala	Ala	Thr	Glu	Leu	Tyr	Asn	Ala	Gly
				100				105			110				
Lys	Val	Lys	Tyr	Ile	Leu	Val	Ser	Gly	Asp	Asn	Arg	Arg	Asn	Ser	Tyr
				115				120			125				
Asn	Glu	Pro	Glu	Glu	Met	Lys	Lys	Ala	Leu	Ile	Ala	Ala	Gly	Ile	Pro
				130				135			140				
Asp	Gln	Arg	Ile	Ile	Leu	Asp	Tyr	Ala	Gly	Leu	Arg	Thr	Leu	Asp	Ser
				145				150		155			160		
Val	Val	Arg	Ala	His	Leu	Ile	Phe	Gly	Leu	Glu	Arg	Phe	Thr	Leu	Ile
				165				170			175				
Ser	Gln	Gln	Phe	His	Asn	Glu	Arg	Ala	Ile	Tyr	Leu	Ala	Gln	Gln	Ser
				180				185			190				
His	Leu	Gln	Ala	Ile	Gly	Tyr	Asn	Ala	Gln	Asp	Val	Ser	Ala	Tyr	Ala
				195				200			205				
Gly	Phe	Lys	Thr	Asn	Leu	Arg	Glu	Leu	Leu	Ala	Arg	Val	Lys	Val	Phe
				210				215			220				
Val	Asp	Ile	Val	Thr	Asn	Lys	Ala	Pro	Lys	His	Leu	Gly	Glu	Lys	Val
				225				230			235			240	
Lys	Ile	Pro	Glu												

<210> 9309

<211> 192
<212> PRT
<213> B.fragilis

<400> 9309

Thr	Ile	Met	Glu	Tyr	Ile	Leu	Ile	Phe	Ile	Ser	Ala	Ile	Phe	Val	Asn
1			5						10						15
Asn	Ile	Val	Leu	Ser	Gln	Phe	Leu	Gly	Ile	Cys	Pro	Phe	Leu	Gly	Val
					20				25						30
Ser	Lys	Lys	Val	Asp	Thr	Ala	Leu	Gly	Met	Ser	Ala	Ala	Val	Ala	Phe
					35				40						45
Val	Leu	Thr	Ile	Ala	Thr	Ile	Val	Thr	Phe	Leu	Ile	Gln	Lys	Phe	Val
					50				55						60
Leu	Asp	Ala	Phe	Gly	Leu	Gln	Tyr	Leu	Gln	Thr	Ile	Thr	Phe	Ile	Leu
					65				70						80
Val	Ile	Ala	Ala	Leu	Val	Gln	Met	Val	Glu	Ile	Ile	Leu	Lys	Lys	Val
					85				90						95
Ser	Pro	Ala	Leu	Tyr	Gln	Ala	Leu	Gly	Val	Phe	Leu	Pro	Leu	Ile	Thr
					100				105						110
Thr	Asn	Cys	Cys	Ile	Leu	Gly	Val	Ala	Ile	Leu	Val	Ile	Gln	Lys	Asp
					115				120						125
Tyr	Asp	Leu	Leu	Thr	Gly	Val	Val	Tyr	Ala	Phe	Ser	Thr	Ala	Ile	Gly
					130				135						140
Phe	Gly	Leu	Ala	Leu	Val	Leu	Phe	Ala	Gly	Leu	Arg	Glu	Gln	Met	Ser
					145				150						160
Leu	Val	Lys	Ile	Pro	Glu	Gly	Met	Lys	Gly	Thr	Pro	Ile	Ala	Leu	Ile
					165				170						175
Thr	Ala	Gly	Leu	Leu	Ala	Met	Ala	Phe	Met	Gly	Phe	Ser	Gly	Val	Val
					180				185						190

<210> 9310
<211> 943
<212> PRT
<213> B.fragilis

<400> 9310

Asn	Met	Gln	Glu	Thr	Glu	Tyr	Ile	Asn	Val	Tyr	Gly	Ala	Arg	Val	His
1					5				10						15
Asn	Leu	Lys	Asp	Ile	Asp	Ala	Glu	Ile	Pro	Arg	Asn	Ser	Leu	Thr	Val
					20				25						30
Ile	Thr	Gly	Leu	Ser	Gly	Ser	Gly	Lys	Ser	Ser	Leu	Ala	Phe	Asp	Thr
					35				40						45
Ile	Phe	Ala	Glu	Gly	Gln	Arg	Arg	Tyr	Ile	Glu	Thr	Phe	Ser	Ala	Tyr
					50				55						60
Ala	Arg	Asn	Phe	Leu	Gly	Asn	Leu	Glu	Arg	Pro	Asp	Val	Asp	Lys	Ile
					65				70						80
Thr	Gly	Leu	Ser	Pro	Val	Ile	Ser	Ile	Glu	Gln	Lys	Thr	Thr	Asn	Lys
					85				90						95
Asn	Pro	Arg	Ser	Thr	Val	Gly	Thr	Thr	Glu	Ile	Tyr	Asp	Tyr	Leu	
					100				105						110
Arg	Leu	Leu	Tyr	Ala	Arg	Ala	Gly	Ile	Ala	Tyr	Ser	Tyr	Leu	Ser	Gly
					115				120						125
Glu	Lys	Met	Val	Lys	Tyr	Thr	Glu	Glu	Gln	Ile	Leu	Glu	Leu	Ile	Leu
					130				135						140
Lys	Asp	Tyr	Lys	Gly	Lys	Lys	Ile	Tyr	Met	Leu	Ala	Pro	Leu	Val	Arg
					145				150						160
Ser	Arg	Lys	Gly	His	Tyr	Lys	Glu	Leu	Phe	Glu	Gln	Ile	Arg	Lys	Lys
					165				170						175
Gly	Tyr	Leu	Tyr	Val	Arg	Ile	Asp	Gly	Glu	Val	Arg	Glu	Ile	Thr	His

180	185	190
Gly Leu Lys Leu Asp Arg Tyr	Lys Asn His Asp Ile Glu Val Val Val	
195	200	205
Asp Lys Leu Ile Val Glu Asp	Lys Asp Asp Lys Arg Leu Lys Gln Ser	
210	215	220
Val Ala Thr Ala Met Arg Gln Gly Asp	Gly Leu Leu Met Ile Leu Asp	
225	230	235
Ala Gln Thr Glu Ser Ile Arg His Tyr	Ser Lys Arg Leu Met Cys Pro	
245	250	255
Val Thr Gly Leu Ser Tyr Arg Glu Pro	Ala Pro His Asn Phe Ser Phe	
260	265	270
Asn Ser Pro Gln Gly Ala Cys Pro	Arg Cys Lys Gly Leu Gly Val Val	
275	280	285
Ser Gln Ile Asp Val Asp	Lys Val Ile Pro Asn Lys Glu Met Ser Ile	
290	295	300
Tyr Glu Gly Ala Ile Ala Pro	Leu Gly Lys Tyr Lys Asn Ala Met Ile	
305	310	315
Phe Trp Gln Ile Gly Ala Leu Leu Glu	Lys Tyr Asp Ala Ser Leu Lys	
325	330	335
Thr Pro Val Lys Asp Leu Pro Asn Asp	Ala Ile Asp Glu Ile Leu Tyr	
340	345	350
Gly Ser Asp Glu Arg Ile Lys	Ile Lys Ser Ser Leu Ile Gly Thr Ser	
355	360	365
Ser Asp Tyr Phe Val Thr Tyr	Glu Gly Val Val Lys Tyr Ile Gln Met	
370	375	380
Leu Gln Glu Lys Asp Ala Ser	Ala Thr Ala Gln Lys Trp Ala Glu Gln	
385	390	395
Phe Ala Lys Thr Thr Val Cys Pro	Glu Cys Lys Gly Ala Lys Leu Asn	
405	410	415
Lys Glu Ala Leu His Phe Arg Ile	His Asp Lys Asn Ile Asn Glu Leu	
420	425	430
Ser Asn Met Asp Ile Asn Glu	Leu Tyr Asp Trp Leu Met Lys Val Asp	
435	440	445
Lys Phe Leu Thr Asp Lys Gln	Lys Thr Ile Ala Ala Glu Ile Leu Lys	
450	455	460
Glu Ile Arg Thr Arg Leu Lys	Phe Leu Leu Asp Val Gly Leu Asp Tyr	
465	470	475
Leu Ser Leu Asn Arg Ser	Ser Val Ser Leu Ser Gly Gly Glu Ser Gln	
485	490	495
Arg Ile Arg Leu Ala Thr Gln	Ile Gly Ser Gln Leu Val Asn Val Leu	
500	505	510
Tyr Ile Leu Asp Glu Pro Ser	Ile Gly Leu His Gln Arg Asp Asn Leu	
515	520	525
Arg Leu Ile Asn Ser Leu Lys	Glu Leu Arg Asp Met Gly Asn Ser Val	
530	535	540
Ile Val Val Glu His Asp	Lys Asp Met Met Leu Ala Ala Asp Tyr Val	
545	550	555
Ile Asp Met Gly Pro Lys Ala Gly	Arg Leu Gly Gly Glu Val Val Phe	
565	570	575
Ala Gly Thr Pro Glu Glu Met	Leu Lys Thr Ser Thr Leu Thr Ser Gln	
580	585	590
Tyr Leu Asn Gly Gln Thr Ala	Ile Glu Val Pro Ser Lys Arg Arg Pro	
595	600	605
Gly Asn Gly Lys Ser Leu Trp	Leu Arg Gly Ala Lys Gly Asn Asn Leu	
610	615	620
Lys Asn Val Asp Val Glu	Phe Pro Leu Gly Lys Leu Ile Cys Val Thr	
625	630	635
Gly Val Ser Gly Ser Gly	Lys Ser Thr Leu Ile Asn Glu Thr Leu Gln	
645	650	655

Pro Ile Leu Ser Gln Lys Phe Tyr Arg Ser Leu Gln Asp Pro Leu Glu
 660 665 670
 Tyr Asp Ser Ile Glu Gly Leu Glu Asn Ile Asp Lys Val Val Asn Val
 675 680 685
 Asp Gln Ser Pro Leu Gly Arg Thr Pro Arg Ser Asn Pro Ala Thr Tyr
 690 695 700
 Thr Gly Val Phe Ser Asp Ile Arg Ser Leu Phe Val Gly Leu Pro Glu
 705 710 715 720
 Ala Lys Ile Arg Gly Tyr Lys Pro Gly Arg Phe Ser Phe Asn Val Ser
 725 730 735
 Gly Gly Arg Cys Glu Ala Cys Ser Gly Asn Gly Tyr Lys Thr Ile Glu
 740 745 750
 Met Asn Phe Leu Pro Asp Val Tyr Val Pro Cys Glu Val Cys His Gly
 755 760 765
 Lys Arg Tyr Asn Arg Glu Thr Leu Glu Val Arg Phe Lys Gly Lys Ser
 770 775 780
 Ile Ala Asp Val Leu Asp Met Thr Ile Asn Arg Ala Val Glu Phe Phe
 785 790 795 800
 Glu Asn Val Pro Gln Ile Leu Asn Lys Ile Lys Thr Ile Gln Asp Val
 805 810 815
 Gly Leu Gly Tyr Ile Lys Leu Gly Gln Ser Ser Thr Thr Leu Ser Gly
 820 825 830
 Gly Glu Ser Gln Arg Val Lys Leu Ala Thr Glu Leu Ser Lys Arg Asp
 835 840 845
 Thr Gly Lys Thr Leu Tyr Ile Leu Asp Glu Pro Thr Thr Gly Leu His
 850 855 860
 Phe Glu Asp Ile Arg Val Leu Met Gly Val Leu Asn Lys Leu Val Asp
 865 870 875 880
 Lys Gly Asn Thr Val Ile Val Ile Glu His Asn Leu Asp Val Ile Lys
 885 890 895
 Met Ala Asp Tyr Ile Ile Asp Met Gly Pro Glu Gly Lys Gly Gly
 900 905 910
 Gly Glu Leu Leu Ser Phe Gly Thr Pro Glu Glu Val Ala Lys Ser Asn
 915 920 925
 Lys Gly Tyr Thr Pro Lys Phe Leu Arg Glu Glu Leu Lys Ile Asn
 930 935 940

<210> 9311

<211> 202

<212> PRT

<213> B.fragilis

<400> 9311

Ile Arg Lys Glu Tyr Lys Asp Met Asn Asn Phe Lys Val Leu Met Asn
 1 5 10 15
 Gly Ile Val Lys Glu Asn Pro Thr Phe Val Leu Leu Gly Met Cys
 20 25 30
 Pro Thr Leu Gly Thr Thr Ser Ser Ala Ile Asn Gly Met Gly Met Gly
 35 40 45
 Leu Ala Thr Met Phe Val Leu Ile Cys Ser Asn Val Val Ile Ser Leu
 50 55 60
 Ile Lys Asn Leu Ile Pro Asp Met Val Arg Ile Pro Ser Phe Ile Val
 65 70 75 80
 Val Ile Ala Ser Phe Val Thr Leu Leu Gln Met Val Met Gln Ala Tyr
 85 90 95
 Val Pro Gly Leu Tyr Ala Thr Leu Gly Leu Phe Ile Pro Leu Ile Val
 100 105 110
 Val Asn Cys Ile Val Leu Gly Arg Ala Glu Ala Phe Ala Ala Lys Asn
 115 120 125

Asn Ala Leu Ser Ser Met Phe Asp Gly Ile Gly Met Gly Leu Gly Phe
 130 135 140
 Thr Ile Ala Leu Thr Leu Leu Gly Ala Val Arg Glu Phe Leu Gly Thr
 145 150 155 160
 Gly Lys Val Phe Asn Leu Ser Ile Ile Pro Glu Glu Tyr Gly Met Leu
 165 170 175
 Val Phe Val Leu Ala Pro Gly Ala Phe Ile Ala Leu Gly Tyr Leu Ile
 180 185 190
 Ala Leu Ile Asn Ser Leu Lys Lys Ala Asn
 195 200

<210> 9312

<211> 115

<212> PRT

<213> B.fragilis

<400> 9312

Lys Ile Glu Leu Met Asn Val Asp Asn Val Lys Ser Gln Met Arg Lys
 1 5 10 15
 Gly Met Leu Glu Tyr Cys Ile Met Leu Leu Leu His Lys Glu Pro Ala
 20 25 30
 Tyr Ala Ser Asp Ile Ile Gln Lys Leu Lys Glu Ala Arg Leu Ile Val
 35 40 45
 Val Glu Gly Thr Leu Tyr Pro Leu Leu Thr Arg Leu Lys Asn Asp Asp
 50 55 60
 Leu Leu Ser Tyr Glu Trp Val Glu Ser Thr Gln Gly Pro Pro Arg Lys
 65 70 75 80
 Tyr Tyr Lys Leu Thr Gly Lys Gly Glu Ser Phe Leu Gly Glu Leu Glu
 85 90 95
 Ala Ser Trp Lys Glu Leu Asn Glu Thr Val Asn His Ile Ala Asn Arg
 100 105 110
 Glu Ser Ile
 115

<210> 9313

<211> 705

<212> PRT

<213> B.fragilis

<400> 9313

Asn Leu Gly Leu Gly Leu Phe Ile Ser Ile Phe Val Ser Ile Leu Ile
 1 5 10 15
 Asp Ile Asp Val Ile Asn Ser Ala Lys Ile Met Asn Asn Met Asp Lys
 20 25 30
 Lys Ile Leu Ile Tyr Cys Arg Val Ser Thr Gln Gln Gln Thr Thr Asp
 35 40 45
 Arg Gln Lys Glu Glu Leu Leu Lys Phe Ala Glu Asp Asn His Trp Asn
 50 55 60
 Val Ala Glu Glu Asp Ile Phe Ile Asp Val Ile Ser Gly Phe Lys Lys
 65 70 75 80
 Gly Glu Phe Arg Pro Glu Tyr Ala Lys Met Leu Glu Arg Val Glu Tyr
 85 90 95
 Gly Asp Ile Asp Ile Ile Leu Phe Ser Glu Phe Ser Arg Leu Ala Arg
 100 105 110
 Asn Ala Thr Glu Leu Leu Glu Gln Ile Lys Leu Phe Ile Asp Lys Gly
 115 120 125
 Ile Asn Leu Tyr Phe Asp Lys Gln Lys Leu Trp Val Lys Asp Thr Asn
 130 135 140
 Lys Asp Val Gly Ser Leu Ile Leu Leu His Val Leu Ala Val Met Ser

Thr Tyr Asn Gly Glu Ser Lys Ile Tyr Val Glu Phe Lys Ser Gly Glu
 625 630 635 640
 Tyr Asn Tyr Asp Thr Phe Asn Gln Met Ile Gln Glu Thr Gly Trp Met
 645 650 655
 Gly Cys Phe Pro Phe Tyr Ala Tyr Glu Asp Ser Gly Lys Asp Leu Ser
 660 665 670
 Val Pro Ser Asn Glu Asp Phe Gly Lys Ser Leu Gln Glu Asn Arg Ile
 675 680 685
 Asp Trp Lys Ala His Asn Glu Lys Val Leu Glu Arg Leu Leu Ser Lys
 690 695 700
 Ser
 705

<210> 9314

<211> 116

<212> PRT

<213> B.fragilis

<400> 9314

Ile Ile Asn Arg Phe Met Asp Tyr Lys Lys Thr Asn Ala Pro Thr Asn
 1 5 10 15
 Thr Ile Thr Arg Asp Met Met Asp Leu Cys Ala Asp Thr Gly Asn Val
 20 25 30
 Tyr Glu Thr Val Ala Ile Ile Gly Lys Arg Ala Asn Gln Ile Ser Val
 35 40 45
 Glu Ile Lys Asn Asp Leu Ser Lys Lys Leu Ala Glu Phe Ala Ser Tyr
 50 55 60
 Asn Asp Asn Leu Glu Glu Val Phe Glu Asn Arg Glu Gln Ile Glu Ile
 65 70 75 80
 Ser Arg Tyr Tyr Glu Lys Leu Pro Lys Pro Asn Leu Ile Ala Ala Gln
 85 90 95
 Glu Tyr Val Glu Gly Lys Ile Tyr Tyr Arg Asn Pro Ala Lys Glu Lys
 100 105 110
 Glu Lys Leu Gln
 115

<210> 9315

<211> 334

<212> PRT

<213> B.fragilis

<400> 9315

Lys Ile Ile Ser Met Glu Asn Lys Leu Ile Val Ser Leu Ser Pro His
 1 5 10 15
 Val His Gly Gly Asp Ser Val Gln Lys Asn Met Tyr Gly Val Leu Ile
 20 25 30
 Ala Leu Ile Pro Ala Phe Ile Val Ser Leu Val Tyr Phe Gly Leu Gly
 35 40 45
 Ala Leu Ile Val Thr Ala Thr Ser Val Ile Ala Cys Leu Phe Phe Glu
 50 55 60
 Trp Ala Ile Gly Lys Phe Leu Leu Lys Glu Thr Thr Thr Ile Cys
 65 70 75 80
 Asp Gly Ser Ala Val Ile Thr Gly Val Leu Leu Ala Phe Asn Leu Pro
 85 90 95
 Ser Asn Leu Pro Val Trp Ile Ile Leu Gly Ala Leu Phe Ala Ile
 100 105 110
 Gly Val Gly Lys Met Ser Phe Gly Gly Leu Gly Asn Asn Pro Phe Asn
 115 120 125
 Pro Ala Leu Ala Gly Arg Val Phe Leu Leu Ser Phe Pro Val Gln

130	135	140
Met	Thr Ser Trp Pro Val Val Gly Gln Leu Thr	Ala Tyr Thr Asp Ala
145	150	155
Thr Thr Ala Ala Thr Pro Leu Ala Leu Met Lys	Gln Ala Ile His Gly	160
165	170	175
Asp Val Ser Ala Phe Gly Gln Leu Pro Asp Ala	Trp Ser Leu Phe Ile	180
180	185	190
Gly Asn Asn Gly Gly Cys Leu Gly Glu Val Ser Ala	Ala Ala Leu Ile	195
195	200	205
Leu Gly Leu Leu Tyr Met Leu Trp Lys Arg Ile Ile	Thr Trp His Ile	210
210	215	220
Pro Val Ser Ile Leu Val Thr Val Phe Val Phe	Ser Gly Ile Met His	225
225	230	235
Leu Ala Asn Pro Glu Ala Tyr Val Ser Pro Val Ile	Gln Leu Leu Ser	245
245	250	255
Gly Gly Leu Met Leu Gly Ala Ile Phe Met Ala Thr	Asp Tyr Val Thr	260
260	265	270
Ser Pro Met Ser Lys Lys Gly Met Leu Ile Tyr	Gly Val Cys Ile Gly	275
275	280	285
Leu Leu Thr Val Val Ile Arg Leu Phe Gly Ala	Tyr Pro Glu Gly Met	290
290	295	300
Ser Phe Ala Ile Leu Ile Met Asn Ala Phe	Thr Pro Leu Ile Asn Thr	305
305	310	315
Tyr Cys Lys Pro Lys Arg Phe Gly Glu Val Ala	Lys Lys Lys Lys	320
325	330	

<210> 9316

<211> 682

<212> PRT

<213> B.fragilis

<400> 9316

Lys	Lys	Lys	Arg	Ser	Met	Asn	Phe	Glu	Leu	Thr	Ser	Ala	Tyr	Lys	Pro
1					5				10						15
Thr	Gly	Asp	Gln	Pro	Glu	Ala	Ile	Ala	Gln	Leu	Thr	Glu	Gly	Val	Leu
							20		25						30
Glu	Gly	Val	Pro	Ala	Gln	Thr	Leu	Leu	Gly	Val	Thr	Gly	Ser	Gly	Lys
					35			40				45			
Thr	Phe	Thr	Ile	Ala	Asn	Val	Ile	Ala	Asn	Ile	Asn	Lys	Pro	Thr	Leu
					50			55			60				
Ile	Leu	Ser	His	Asn	Lys	Thr	Leu	Ala	Ala	Gln	Leu	Tyr	Ser	Glu	Phe
					65			70		75		80			
Lys	Gly	Phe	Phe	Pro	Asn	Asn	Ala	Val	Glu	Tyr	Tyr	Val	Ser	Tyr	Tyr
					85			90			95				
Asp	Tyr	Tyr	Gln	Pro	Glu	Ala	Tyr	Leu	Pro	Ser	Ser	Asp	Thr	Tyr	Ile
					100			105			110				
Glu	Lys	Asp	Leu	Ala	Ile	Asn	Asp	Glu	Ile	Asp	Lys	Leu	Arg	Leu	Ala
					115			120			125				
Ala	Thr	Ser	Ala	Leu	Leu	Ser	Gly	Arg	Lys	Asp	Val	Val	Val	Val	Ser
					130			135			140				
Ser	Val	Ser	Cys	Ile	Tyr	Gly	Met	Gly	Asn	Pro	Ser	Asp	Phe	Tyr	Asn
					145			150			155			160	
Asn	Val	Ile	Glu	Ile	Glu	Arg	Gly	Arg	Thr	Ile	Asn	Arg	Asn	Val	Phe
					165			170			175				
Leu	Arg	Arg	Leu	Val	Asp	Ser	Leu	Tyr	Met	Arg	Asn	Asp	Ile	Glu	Leu
					180			185			190				
Asn	Arg	Gly	Asn	Phe	Arg	Val	Lys	Gly	Asp	Thr	Val	Asp	Ile	Tyr	Leu
					195			200			205				
Ala	Tyr	Leu	Asp	Asn	Leu	Leu	Arg	Val	Thr	Phe	Trp	Gly	Asp	Glu	Ile

210	215	220
Asp Gly Ile Glu Glu Val Asp Pro Val Ser Gly Val Thr Ile Ala Pro		
225	230	235
Phe Glu Ala Tyr Lys Ile Tyr Pro Ala Asn Leu Phe Met Thr Thr Lys		240
245	250	255
Glu Ala Thr Leu Arg Ala Ile His Glu Ile Glu Asp Asp Leu Thr Lys		
260	265	270
Gln Val Ala Tyr Phe Glu Ser Ile Gly Lys Glu Tyr Glu Ala Lys Arg		
275	280	285
Leu Tyr Glu Arg Val Thr Tyr Asp Met Glu Met Ile Arg Glu Leu Gly		
290	295	300
His Cys Ser Gly Ile Glu Asn Tyr Ser Arg Tyr Phe Asp Gly Arg Ala		
305	310	315
Ala Gly Thr Arg Pro Tyr Cys Leu Leu Asp Phe Phe Pro Asp Asp Phe		320
325	330	335
Leu Ile Val Ile Asp Glu Ser His Val Ser Val Pro Gln Ile Arg Ala		
340	345	350
Met Tyr Gly Gly Asp Arg Ala Arg Lys Ile Asn Leu Val Glu Tyr Gly		
355	360	365
Phe Arg Leu Pro Ala Ala Met Asp Asn Arg Pro Leu Lys Phe Glu Glu		
370	375	380
Phe Glu Ser Met Ala Lys Gln Val Ile Tyr Val Ser Ala Thr Pro Ala		
385	390	395
Asp Tyr Glu Leu Val Gln Ser Glu Gly Ile Val Val Glu Gln Val Ile		400
405	410	415
Arg Pro Thr Gly Leu Leu Asp Pro Val Ile Glu Val Arg Pro Ser Leu		
420	425	430
Asn Gln Ile Asp Asp Leu Met Glu Glu Ile Gln Ile Arg Ile Glu Lys		
435	440	445
Glu Glu Arg Ile Leu Val Thr Thr Leu Thr Lys Arg Met Ala Glu Glu		
450	455	460
Leu Thr Glu Tyr Leu Leu Asn Asn Asn Val Arg Cys Asn Tyr Ile His		
465	470	475
Ser Asp Val Asp Thr Leu Glu Arg Val Lys Ile Met Asp Asp Leu Arg		480
485	490	495
Gln Gly Val Tyr Asp Val Leu Ile Gly Val Asn Leu Leu Arg Glu Gly		
500	505	510
Leu Asp Leu Pro Glu Val Ser Leu Val Ala Ile Leu Asp Ala Asp Lys		
515	520	525
Glu Gly Phe Leu Arg Ser His Arg Ser Leu Thr Gln Thr Ala Gly Arg		
530	535	540
Ala Ala Arg Asn Val Asn Gly Met Val Ile Met Tyr Ala Asp Lys Ile		
545	550	555
Thr Asp Ser Met Arg Leu Thr Ile Asp Glu Thr Asn Arg Arg Arg Glu		560
565	570	575
Lys Gln Leu Ala Tyr Asn Glu Glu His Gly Ile Thr Pro Gln Gln Ile		
580	585	590
Lys Lys Ala Arg Asn Leu Ser Val Phe Gly Asn Gly Ala Glu Thr Glu		
595	600	605
Asp Thr Gln Lys Gly Thr Arg Ala Tyr Val Glu Pro Ser Ser Pro Asn		
610	615	620
Ile Ala Ala Asp Pro Val Val Gln Tyr Met Ser Lys Ala Gln Leu Glu		
625	630	635
Lys Ser Met Glu Arg Thr Arg Lys Leu Met Gln Glu Ala Ala Lys Lys		640
645	650	655
Leu Glu Phe Ile Glu Ala Ala Gln Tyr Arg Asp Glu Leu Leu Lys Met		
660	665	670
Glu Asp Leu Met Lys Glu Lys Trp Pro Gly		
675	680	

<210> 9317
<211> 176
<212> PRT
<213> B.fragilis

<400> 9317

Leu	Thr	Asn	Gly	Gln	Leu	Leu	Ser	Val	Ala	Ala	Glu	Ile	His	Ile	Leu
1				5					10				15		
Ser	Met	Lys	Ile	Asn	Lys	Thr	Asn	Ala	Ala	Arg	Leu	Leu	Asp	Lys	Ala
					20				25				30		
Lys	Ile	Ala	Tyr	Glu	Leu	Ile	Pro	Tyr	Glu	Val	Asp	Glu	Ser	Asp	Leu
					35			40			45				
Ser	Ala	Val	His	Val	Ala	Ala	Ser	Leu	Gly	Glu	Asn	Ile	Asn	Gln	Val
					50			55			60				
Phe	Lys	Thr	Leu	Val	Leu	His	Gly	Asp	Lys	Thr	Gly	Tyr	Phe	Val	Cys
					65		70		75				80		
Val	Ile	Pro	Gly	Asp	Gln	Glu	Val	Asn	Leu	Lys	Leu	Ala	Ala	Lys	Val
					85			90				95			
Ser	Gly	Asn	Lys	Ser	Cys	Asp	Met	Ile	Pro	Met	Lys	Glu	Leu	Leu	Ser
					100			105			110				
Val	Thr	Gly	Tyr	Ile	Arg	Gly	Ala	Cys	Ser	Pro	Ile	Gly	Met	Lys	Lys
					115			120			125				
His	Phe	Pro	Thr	Tyr	Ile	His	Glu	Thr	Cys	Leu	Gly	Phe	Pro	Tyr	Ile
					130		135			140					
Tyr	Val	Ser	Ala	Gly	Gln	Arg	Gly	Leu	Gln	Ile	Lys	Ile	Asp	Pro	Lys
					145		150			155			160		
Glu	Leu	Ile	Asn	Glu	Val	Arg	Ala	Glu	Val	Cys	Val	Leu	Tyr	Thr	Val
					165			170			175				

<210> 9318
<211> 275
<212> PRT
<213> B.fragilis

<400> 9318

Asn	Thr	Lys	Gly	Phe	Glu	Lys	Asn	Trp	Val	Asn	Gly	Ser	Ala	Ala	Asn
1					5				10			15			
Val	Leu	Leu	Ala	Val	Asn	Ala	Val	Asn	Gly	Thr	Lys	Gly	Gly	Leu	Gly
					20			25			30				
Ser	Ser	Tyr	Leu	Ser	Ala	Ile	Val	Asn	Asp	Tyr	Gly	Glu	Glu	Leu	Arg
					35			40			45				
Thr	Glu	Ser	Gly	Thr	Thr	Ser	Phe	Ser	Ala	Asp	Gly	Asn	Leu	Pro	Arg
					50			55			60				
Ile	Asp	Ile	Leu	Thr	Gln	Asn	Leu	Phe	Asn	Ala	Arg	Leu	Asp	Tyr	Lys
					65			70			75		80		
Leu	Phe	Met	Val	Pro	Ala	Leu	Met	Val	Met	Leu	Leu	Thr	Met	Leu	Cys
					85			90			95				
Gly	Phe	Leu	Pro	Ala	Leu	Asn	Ile	Val	Gly	Glu	Lys	Glu	Ala	Gly	Thr
					100			105			110				
Ile	Glu	Gln	Ile	Asn	Val	Thr	Pro	Val	Gly	Lys	Phe	Thr	Phe	Ile	Leu
					115			120			125				
Ala	Lys	Leu	Ile	Pro	Tyr	Trp	Leu	Ile	Gly	Phe	Val	Val	Leu	Thr	Leu
					130			135			140				
Cys	Phe	Val	Leu	Ala	Trp	Thr	Leu	Tyr	Gly	Ile	Phe	Pro	Val	Gly	His
					145			150			155		160		
Phe	Gly	Val	Ile	Tyr	Cys	Phe	Phe	Ile	Ile	Phe	Val	Leu	Ala	Val	Ser
					165			170			175				
Gly	Leu	Gly	Leu	Val	Ile	Ser	Asn	His	Ser	Ala	Thr	Met	Gln	Gln	Ala

180	185	190
Met Phe Val Met Trp Phe Cys	Met Leu Ile Leu Ile	Leu Met Ser Gly
195	200	205
Leu Phe Thr Pro Ile Arg Ser	Met Pro Glu Trp Ala Gln	Trp Ile Thr
210	215	220
Met Leu Asn Pro Leu Lys Tyr	Phe Met Gln Val	Met Arg Met Val Tyr
225	230	235
Leu Lys Gly Ser Gly	Phe Ile Asp Leu	Leu Pro Gln Leu Gly Ala Leu
245	250	255
Leu Ala Phe Ala Leu Leu Phe Asn Val	Trp Ala Val Lys Ser	Tyr Arg
260	265	270
Lys Ser Gly		
275		

<210> 9319

<211> 62

<212> PRT

<213> B.fragilis

<400> 9319

1	5	10	15
Phe Leu Arg Met Ala Gly Ser Met	Ala Glu Thr Lys Arg Asn	Gly Thr	
20	25	30	
Glu Ile Lys Ala Val Leu Ser Thr Asn Lys Gly Ser Val	Pro Thr Gly		
35	40	45	
Gln Ser Leu Tyr Leu Leu Thr Thr Glu Ala Leu Phe Gly Arg			
50	55	60	

<210> 9320

<211> 657

<212> PRT

<213> B.fragilis

<400> 9320

1	5	10	15
Ile Leu Pro Phe Ser Leu Ala Tyr Thr Ser Pro Arg Lys	Lys Val Gly		
20	25	30	
Ile Val Leu Ser Gly Gly Ala Lys Gly Val Ala His	Ile Gly Val		
35	40	45	
Ile Lys Ala Leu Glu Glu Leu Asn Ile Pro Ile Asp Tyr	Ile Ala Gly		
50	55	60	
Thr Ser Ile Gly Ala Ile Ile Gly Gly Leu Tyr Ser Ile Gly	Tyr Thr		
65	70	75	80
Ser Glu Gln Leu Glu Thr Ile Val Lys Gln Thr Asp Trp	Ile Asn Leu		
85	90	95	
Leu Thr Asp Lys Val Ser Arg Glu Lys Ile Pro Phe Pro	Phe Lys Ser		
100	105	110	
Asn Asp Ser Lys Tyr Leu Val Ser Phe Pro Phe Asn Asn	Ser Glu Lys		
115	120	125	
Asn Gly Gly Ile Ile Lys Gly Lys Asn Ile Ser Gln	Leu Leu His Gln		
130	135	140	
Leu Thr Glu Gly Tyr Gln Asn Val Thr Asn Phe Asp Ser	Leu Pro Ile		
145	150	155	160
Pro Phe Ala Cys Ile Ala Thr Asp Met Ala Arg Asn Gln	Lys Glu Val		
165	170	175	
Ile Arg Phe Gly Lys Leu Ser Glu Ala Met Arg Ala Ser	Met Ala Val		
180	185	190	

Pro Ile Val Phe Ser Pro Ile Tyr Ser Gly Gln Lys Val Leu Ile Asp
 195 200 205
 Gly Gly Phe Lys Asp Asn Leu Pro Ile Asp Val Val Lys Ser Met Gly
 210 215 220
 Ala Asp Ile Ile Ile Gly Ile Asp Val Gln Ser Glu Leu Ser Asp Ala
 225 230 235 240
 Asp Asn Leu His Ser Ile Ala Gly Ile Ala Asn Gln Leu Met Leu Met
 245 250 255
 Ile Cys Gln Ser Ser Leu Asp Glu Ser Thr Lys Asp Ile Asp Ala Tyr
 260 265 270
 Ile Lys Val Asp Val Glu Asn Tyr Asn Ala Ala Ser Phe Thr Lys Ala
 275 280 285
 Ala Ile Asp Thr Leu Ile Ile Arg Gly Glu Asn Ala Ala Lys Ala Asn
 290 295 300
 Tyr Asn Thr Leu Leu Ser Ile Lys Asn Arg Ile Gly Ile Val Asn Asn
 305 310 315 320
 Lys Arg Asn Asn Lys Ala Gln Leu Pro Leu Phe Tyr Pro Gln Tyr Val
 325 330 335
 Pro Ser Asn Asp Asn Gln Leu Arg Ile Gly Leu Arg Phe Asp Ser Glu
 340 345 350
 Asp Ile Ala Ala Val Met Leu Asn Ile Asn Leu Asn Lys His Lys Phe
 355 360 365
 Gly Lys Ala Glu Ile Ala Val Arg Gly Gly Lys Gln Ser Phe Leu Arg
 370 375 380
 Thr Gln Tyr His Phe Pro Ile Ser Lys Pro Gln Trp Ile Thr Leu Ser
 385 390 395 400
 Asn Gln Ile Gly Tyr Asn Asp Ile Phe Leu Tyr Ser His Gly Tyr Lys
 405 410 415
 Ile Ser Asn Pro Thr Phe Ile Arg Asn Thr Ser Ser Leu Ile Tyr Ser
 420 425 430
 Ile Ile Pro Ser Arg Asn Leu Gln Ile Glu Val Gly Thr Ser Leu Asp
 435 440 445
 Tyr His Gln Tyr Tyr Arg Thr Leu Val Asn Glu Asp Ala Thr Pro Ile
 450 455 460
 Lys Arg Lys Asn Leu Phe Leu Asn Tyr His Thr Lys Leu Lys Tyr Glu
 465 470 475 480
 Thr Leu Asn Lys Arg Tyr Phe Pro Thr Lys Gly Leu Lys Thr Asn Ile
 485 490 495
 Ser Tyr Thr Ile His Thr Asp Leu His Thr Asn Thr Ala Tyr Ser Ser
 500 505 510
 Leu Ala Thr Gln Ile Thr Lys Ile Phe Pro Ile Ala Leu Asn Thr Phe
 515 520 525
 Ile Ile Pro Thr Ile Tyr Gly Arg Phe Ile Phe Asn Asp Gly Ile Pro
 530 535 540
 Phe Met Tyr Ser Asn Val Ile Gly Gly Glu Gly Tyr Asn Pro His Tyr
 545 550 555 560
 Glu Gln Gln Ile Pro Phe Ser Gly Leu Pro His Thr Glu Ser Thr Leu
 565 570 575
 Lys Leu Leu Gly Asn Ala Arg Ile Gln Ile Arg His Lys Phe His Gly
 580 585 590
 Lys Gln Tyr Leu Thr Leu Ser Gly Asn Tyr Ala Ile His Gln Asn Gln
 595 600 605
 Phe Ser Asn Phe Leu Gln Gly Lys Lys Ile Tyr Gly Thr Ser Ile Gly
 610 615 620
 Tyr Gly Tyr Asp Ser Pro Leu Gly Pro Ile Glu Gly Phe Ile Cys Tyr
 625 630 635 640
 Ser Asn Arg Thr Asn Lys Leu Gly Phe Tyr Leu Asn Ile Gly Phe Gly
 645 650 655

Phe

<210> 9321
<211> 542
<212> PRT
<213> B.fragilis

<400> 9321

Lys	Gln	Ile	Ile	Lys	Thr	Val	Ile	Ala	Val	Gly	Glu	Thr	Lys	Tyr	Ile
1				5					10				15		
Phe	Val	Thr	Gly	Gly	Val	Ala	Ser	Ser	Leu	Gly	Lys	Gly	Ile	Ile	Ser
				20					25			30			
Ser	Ser	Ile	Gly	Lys	Leu	Leu	Gln	Ala	Arg	Gly	Tyr	Lys	Val	Thr	Ile
				35					40		45				
Gln	Lys	Phe	Asp	Pro	Tyr	Ile	Asn	Ile	Asp	Pro	Gly	Thr	Leu	Asn	Pro
				50					55		60				
Tyr	Glu	His	Gly	Glu	Cys	Tyr	Val	Thr	Val	Asp	Gly	His	Glu	Ala	Asp
				65					70		75		80		
Leu	Asp	Leu	Gly	His	Tyr	Glu	Arg	Phe	Leu	Gly	Ile	Gln	Thr	Thr	Lys
				85					90			95			
Ala	Asn	Asn	Ile	Thr	Thr	Gly	Arg	Ile	Tyr	Lys	Ser	Val	Ile	Asp	Lys
				100					105			110			
Glu	Arg	Arg	Gly	Asp	Tyr	Leu	Gly	Lys	Thr	Ile	Gln	Val	Ile	Pro	His
				115					120		125				
Ile	Thr	Asp	Glu	Ile	Lys	Arg	Asn	Val	Lys	Leu	Leu	Gly	Asn	Lys	Tyr
				130					135		140				
Lys	Phe	Asp	Phe	Val	Ile	Thr	Glu	Ile	Gly	Gly	Thr	Val	Gly	Asp	Ile
				145					150		155		160		
Glu	Ser	Leu	Pro	Tyr	Leu	Glu	Ser	Ile	Arg	Gln	Leu	Lys	Trp	Glu	Leu
				165					170			175			
Gly	Gln	Asn	Ala	Leu	Cys	Val	His	Leu	Thr	Tyr	Val	Pro	Phe	Leu	Ser
				180					185			190			
Ala	Ala	Gln	Glu	Leu	Lys	Thr	Lys	Pro	Thr	Gln	His	Ser	Val	Lys	Glu
				195					200			205			
Leu	Gln	Ser	Leu	Gly	Val	Gln	Pro	Asp	Ile	Leu	Val	Leu	Arg	Thr	Glu
				210					215			220			
His	Asp	Leu	Asn	Thr	Asn	Leu	Arg	Lys	Lys	Val	Ala	Leu	Phe	Cys	Asn
				225					230		235		240		
Val	Ala	Glu	Asn	Ala	Val	Val	Gln	Ser	Ile	Asp	Ala	Ser	Thr	Ile	Tyr
				245					250			255			
Glu	Val	Pro	Leu	Leu	Met	Gln	Glu	Gln	Gly	Leu	Asp	Glu	Thr	Ile	Leu
				260					265			270			
Gln	Lys	Met	Gly	Leu	Pro	Val	Gly	Glu	Arg	Pro	Pro	Leu	Gly	Pro	Trp
				275					280			285			
Lys	Asp	Phe	Leu	Asn	Arg	Arg	Ala	Asn	Ala	Thr	Glu	Thr	Val	Thr	Ile
				290					295			300			
Ala	Met	Val	Gly	Lys	Tyr	Val	Glu	Leu	Gln	Asp	Ala	Tyr	Lys	Ser	Ile
				305					310		315		320		
Leu	Glu	Ser	Leu	Ser	Gln	Ala	Ala	Thr	Tyr	Asn	Asp	Arg	Lys	Val	Lys
				325					330			335			
Ile	Glu	Tyr	Val	Ser	Ser	Glu	His	Leu	Thr	Pro	Asp	Asn	Val	Asp	Glu
				340					345			350			
Gln	Leu	Gly	His	Val	Asn	Gly	Val	Val	Ile	Cys	Pro	Gly	Phe	Gly	Ser
				355					360			365			
Arg	Gly	Ile	Glu	Gly	Lys	Phe	Val	Ala	Ala	Lys	Tyr	Thr	Arg	Glu	His
				370					375			380			
Asn	Ile	Pro	Thr	Phe	Gly	Ile	Cys	Leu	Gly	Met	Gln	Cys	Met	Ala	Ile
				385					390		395		400		
Glu	Phe	Ala	Arg	Asn	Val	Leu	Gly	Tyr	Ala	Asp	Ala	Asn	Ser	Ile	Glu

405	410	415
Met Asp Glu Lys Thr Lys His Asn Val Ile Asp Ile Met	Glu Glu Gln	
420	425	430
Lys Ala Ile Thr Asn Met Gly Gly Thr Met Arg Leu	Gly Ala Tyr Glu	
435	440	445
Cys Val Leu Lys Lys Asp Ser Lys Val Tyr Glu Ala	Tyr Lys Glu Glu	
450	455	460
His Ile Gln Glu Arg His Arg His Arg Tyr Glu Phe Asn	Asn Asp Tyr	
465	470	475
Arg Lys Gln Phe Glu Glu Ala Gly Met Lys Cys Val	Gly Ile Asn Pro	
485	490	495
Glu Ser Asp Leu Val Glu Ile Val Glu Ile Pro Thr Leu	Lys Trp Tyr	
500	505	510
Ile Gly Thr Gln Phe His Pro Glu Tyr Ser Ser Thr Val	Leu His Pro	
515	520	525
His Pro Leu Phe Val Ser Phe Ile Lys Ala Ala Ile	Asp Lys	
530	535	540

<210> 9322

<211> 293

<212> PRT

<213> B.fragilis

<400> 9322

Leu Lys Ile Met Asn Leu Ile Leu Ile Ala Val Ile Ser	Leu Gly Ala		
1	5	10	15
Ile Ala Leu Val Leu Ala Ala Val Leu Tyr Val Ala Ser	Lys Lys Phe		
20	25	30	
Ala Val Tyr Glu Asp Pro Arg Ile Ala Gln Val Ser	Glu Val Leu Pro		
35	40	45	
Gln Ala Asn Cys Gly Gly Cys Gly Tyr Pro Gly Cys Ser	Gly Phe Ala		
50	55	60	
Asp Ala Cys Val Lys Ala Gly Ser Leu Glu Gly Lys	Phe Cys Pro Val		
65	70	75	80
Gly Gly Gln Pro Val Met Ser Gln Val Ala Ser Ile	Leu Gly Leu Asp		
85	90	95	
Ala Gly Thr Ala Glu Pro Met Val Ala Val Val Arg	Cys Asn Gly Thr		
100	105	110	
Cys Thr Asn Arg Pro Arg Thr Asn Met Tyr Asp Gly	Ala Lys Ser Cys		
115	120	125	
Ala Ile Ala Ala Ser Leu Tyr Gly Gly Glu Thr Gly	Cys Ser Tyr Gly		
130	135	140	
Cys Leu Gly Cys Gly Asp Cys Val Ala Ala Cys Gln	Phe Asp Ala Ile		
145	150	155	160
His Met Asn Pro Glu Thr Gly Leu Pro Glu Val Asp	Glu Glu Lys Cys		
165	170	175	
Thr Ala Cys Gly Ala Cys Val Lys Ala Cys Pro Lys	Ala Ile Ile Glu		
180	185	190	
Leu Arg Ala Lys Gly Lys Lys Ser Arg Arg Val	Tyr Val Ser Cys Val		
195	200	205	
Asn Lys Asp Lys Gly Ala Val Ala Arg Lys Ala Cys	Thr Val Ser Cys		
210	215	220	
Ile Gly Cys Gly Lys Cys Val Lys Thr Cys Pro Phe	Glu Ala Ile Thr		
225	230	235	240
Leu Glu Asn Asn Leu Ala Tyr Ile Asp Tyr Asn Lys	Cys Lys Ser Cys		
245	250	255	
Arg Lys Cys Val Glu Val Cys Pro Gln His Thr Ile	Ile Glu Leu Asn		
260	265	270	
Phe Pro Pro Arg Lys Pro Lys Glu Glu Met Pro Val	Ala Glu Ala Ala		

275
 Lys Thr Ala Glu Ala
 290

280

285

<210> 9323
 <211> 196
 <212> PRT
 <213> B.fragilis

<400> 9323
 Ser Arg Ile Phe Ile Pro Met Asn Ile Ile Lys Thr Ser Ile Glu Gly
 1 5 10 15
 Leu Val Ile Leu Glu Pro Arg Leu Phe Gln Asp Asp Arg Gly Tyr Phe
 20 25 30
 Phe Glu Ser Phe Asn Gln Gly Glu Phe Glu Ser Asn Val Cys Gln Thr
 35 40 45
 Thr Phe Val Gln Asp Asn Glu Ser Lys Ser Ser Tyr Gly Val Ile Arg
 50 55 60
 Gly Leu His Phe Gln Lys Pro Pro Phe Ala Gln Ser Lys Leu Val Arg
 65 70 75 80
 Val Ile Lys Gly Ala Val Leu Asp Val Ala Val Asp Ile Arg Lys Gly
 85 90 95
 Ser Pro Thr Phe Gly Lys His Val Ser Val Glu Leu Thr Glu Asp Asn
 100 105 110
 His Arg Gln Phe Phe Ile Pro Arg Gly Phe Ala His Gly Phe Ser Val
 115 120 125
 Leu Ser Glu Glu Val Ile Phe Gln Tyr Lys Cys Asp Asn Phe Tyr His
 130 135 140
 Pro Glu Ala Glu Gly Ala Ile Ala Trp Asn Asp Pro Asp Leu Asn Ile
 145 150 155 160
 Asp Trp Lys Ile Pro Gln Asp Arg Val Ile Leu Ser Gly Lys Asp Tyr
 165 170 175
 Thr His Pro Leu Leu His Asn Ile Glu Leu Gln Phe Asp Ile Asn Asn
 180 185 190
 Thr Leu Tyr Glu
 195

<210> 9324
 <211> 81
 <212> PRT
 <213> B.fragilis

<400> 9324
 Leu Ala Tyr Met Thr Asn Ile Glu Asp Phe Val Ile Gln Lys Val Lys
 1 5 10 15
 Ala Met Arg Met Glu Arg Lys Trp Ser Gln Val Glu Leu Ala Asp Tyr
 20 25 30
 Met Asn Leu Ser Pro Ser Phe Ile Ala Asp Ile Glu Asn Pro Lys Arg
 35 40 45
 Arg Ala Lys Tyr Asn Leu Asn His Leu Asn Glu Leu Ala Lys Val Phe
 50 55 60
 Ser Cys Ser Pro Lys Asp Phe Leu Pro Asp Thr Pro Leu Lys Asn Glu
 65 70 75 80
 Lys

<210> 9325
 <211> 180
 <212> PRT

<213> B.fragilis

<400> 9325

Ile	Ser	Ile	Phe	Leu	Ser	Ile	Leu	Phe	Ile	Ile	Phe	Ala	Leu	Leu	Ile
1				5					10						15
Thr	Ser	Ile	Ser	Ile	Asn	Met	Glu	Thr	Asn	Ile	Glu	Ile	Asn	Lys	Pro
				20					25						30
Ser	Pro	Lys	Phe	Gln	Asp	Val	Ser	Ile	Ala	Pro	Met	His	Thr	Ala	Glu
		35				40						45			
His	Leu	Leu	Asn	Ala	Thr	Met	Val	Lys	Thr	Phe	Gly	Cys	Pro	Arg	Ser
		50				55					60				
Arg	Asn	Ala	His	Ile	Glu	Lys	Lys	Ser	Lys	Cys	Asp	Tyr	Glu	Leu	
	65				70				75					80	
Pro	Thr	Cys	Pro	Thr	Glu	Glu	Gln	Ile	His	Ala	Ile	Glu	Glu	Lys	Val
				85					90					95	
Asn	Glu	Ala	Ile	Asp	Arg	His	Leu	Pro	Val	Thr	Cys	Glu	Phe	Met	Thr
		100				105						110			
His	Glu	Glu	Ala	Lys	Ser	Ile	Val	Asp	Leu	Ser	Lys	Leu	Pro	Glu	Asn
		115				120					125				
Ala	Ser	Glu	Ile	Leu	Arg	Ile	Val	Arg	Ile	Gly	Asp	Tyr	Asp	Ala	Cys
		130				135					140				
Ala	Cys	Ile	Gly	Gln	His	Val	Glu	Asn	Thr	Ser	Glu	Ile	Gly	Leu	Phe
	145				150					155				160	
Lys	Ile	Ile	Ser	Tyr	Asp	Tyr	Ala	Asp	Gly	Lys	Leu	Arg	Leu	Arg	Phe
			165					170						175	
Lys	Leu	Ile	Lys												
			180												

<210> 9326

<211> 298
<212> PRT
<213> B.fragilis

<400> 9326

Ser	Ile	Ile	Met	Lys	Gly	Ile	Val	Leu	Ala	Gly	Gly	Ser	Gly	Thr	Arg
1				5				10						15	
Leu	Tyr	Pro	Ile	Thr	Lys	Gly	Val	Ser	Lys	Gln	Leu	Leu	Pro	Ile	Phe
				20				25						30	
Asp	Lys	Pro	Met	Ile	Tyr	Tyr	Pro	Ile	Ser	Val	Leu	Met	Leu	Ala	Gly
			35				40					45			
Ile	Arg	Glu	Ile	Leu	Ile	Ile	Ser	Thr	Pro	Tyr	Asp	Leu	Pro	Gly	Phe
		50				55					60				
Gln	Arg	Leu	Leu	Gly	Asp	Gly	Ser	Asp	Phe	Gly	Val	Arg	Phe	Glu	Tyr
	65				70				75					80	
Ala	Glu	Gln	Pro	Ser	Pro	Asp	Gly	Leu	Ala	Gln	Ala	Phe	Ile	Ile	Gly
			85				90					95			
Glu	Lys	Phe	Ile	Gly	Gly	Asp	Ser	Val	Cys	Leu	Val	Leu	Gly	Asp	Asn
			100			105					110				
Ile	Phe	Tyr	Gly	Gln	Ser	Phe	Thr	Arg	Met	Leu	Arg	Glu	Ala	Val	His
			115			120					125				
Thr	Ala	Glu	Ser	Glu	Asn	Lys	Ala	Thr	Val	Phe	Gly	Tyr	Trp	Val	Ser
			130			135					140				
Asp	Pro	Glu	Arg	Tyr	Gly	Val	Ala	Glu	Phe	Asp	Lys	Ala	Gly	Asn	Val
	145				150				155					160	
Leu	Ser	Ile	Glu	Glu	Lys	Pro	Thr	Val	Pro	Lys	Ser	Asn	Tyr	Ala	Val
			165				170					175			
Val	Gly	Leu	Tyr	Phe	Tyr	Pro	Asn	Lys	Val	Val	Glu	Val	Ala	Lys	Ser
			180				185					190			
Ile	Gln	Pro	Ser	Pro	Arg	Gly	Glu	Leu	Glu	Ile	Thr	Thr	Val	Asn	Gln

195	200	205
Arg Phe Leu Ser Asp Arg Glu	Leu Lys Val Gln Leu	Leu Gly Arg Gly
210	215	220
Phe Ala Trp Leu Asp Thr Gly	Thr His Asp Ser	Leu Ser Glu Ala Ser
225	230	235
Thr Phe Ile Glu Val Ile Glu	Lys Arg Gln Gly	Leu Lys Val Ala Cys
245	250	255
Leu Glu Gly Ile Ala Leu Arg Gln	Gly Trp Ile Ser Pro	Glu Glu Met
260	265	270
Lys Ala Leu Ala Gly Pro Met	Leu Lys Asn Gln	Tyr Gly Gln Tyr Leu
275	280	285
Leu Lys Val Ile Asp Glu Leu	Ser Ile Lys	
290	295	

<210> 9327

<211> 364

<212> PRT

<213> B.fragilis

<400> 9327

Phe Cys Tyr Ile Cys Lys His	Phe Thr Ser Lys Pro	Lys Leu Thr
1	5	10
Ile Ile His Val Met Lys	Glu Arg Ile Leu Val	Thr Gly Gly Thr Gly
20	25	30
Tyr Ile Gly Ser His Thr Val	Val Glu Leu Gln Asn	Ser Gly Tyr Glu
35	40	45
Val Ile Ile Asp Asn Leu	Ser Asn Ser Ala Asp	Val Val Asp
50	55	60
Asn Ile Glu Lys Val Ser	Gly Ile Arg Pro Val	Phe Glu Lys Leu Asp
65	70	75
Cys Leu Asp Phe Asp Gly	Leu Asp Ala Val	Phe Asn Lys Tyr Lys Gly
85	90	95
Ile Lys Ala Ile Ile His	Phe Ala Ala Ser	Lys Ala Val Gly Glu Ser
100	105	110
Val Glu Lys Pro Leu Leu	Tyr Tyr Arg Asn Asn	Leu Val Ser Leu Ile
115	120	125
Asn Leu Leu Glu Leu	Met Pro Lys His	Gly Ile Glu Gly Ile Val Phe
130	135	140
Ser Ser Ser Cys Thr Val	Tyr Gly Glu Pro Asp	Glu Leu Pro Val Thr
145	150	155
Glu Asn Ala Pro Ile Lys	Lys Ala Thr Ser	Pro Tyr Gly Asn Thr Lys
165	170	175
Gln Ile Asn Glu Glu Ile	Val Arg Asp	Thr Val Ala Ser Gly Ala Pro
180	185	190
Ile Asn Ala Ile Leu Leu	Arg Tyr Phe Asn Pro	Ile Gly Ala His Pro
195	200	205
Thr Ala Leu Leu Gly	Glu Leu Pro Asn	Gly Val Pro Gln Asn Leu Ile
210	215	220
Pro Tyr Leu Thr Gln	Thr Ala Ile Gly	Ile Arg Glu Lys Leu Ser Val
225	230	235
Phe Gly Asp Asp Tyr Asp	Thr Pro Asp Gly	Ser Cys Ile Arg Asp Phe
245	250	255
Ile Asn Val Val Asp	Leu Ala Lys	Ala His Val Ile Ala Ile Ala Arg
260	265	270
Ile Leu Glu Lys Lys	Gln Lys Asp	Lys Val Glu Thr Phe Asn Ile Gly
275	280	285
Thr Gly Arg Gly Val Ser	Val Leu Glu Leu Ile	Asn Gly Phe Glu Lys
290	295	300
Ala Thr Gly Val Lys	Leu Asn Tyr	Gln Ile Val Gly Arg Arg Ala Gly

305	310	315	320
Asp Ile Glu Lys Val Trp Ala Asn Pro Asp Tyr Ala Asn Asn Glu Leu			
325	330	335	
Gly Trp Lys Ala Gln Glu Thr Leu Glu Asp Thr Leu Arg Ser Ala Trp			
340	345	350	
Ala Trp Gln Leu Lys Leu Arg Glu Arg Gly Ile Gln			
355	360		

<210> 9328

<211> 277

<212> PRT

<213> B.fragilis

<400> 9328

Pro Lys Asp Met Ile Thr Phe Pro Asn Ala Lys Ile Asn Leu Gly Leu			
1	5	10	15
Asn Ile Thr Glu Lys Arg Pro Asp Gly Tyr His Asn Leu Glu Thr Val			
20	25	30	
Phe Tyr Pro Ile Pro Leu Glu Asp Ala Leu Glu Ile Thr Ile Leu Asn			
35	40	45	
Asp Ser Lys Gln Lys Phe Val Leu His Gln Ser Gly Leu Glu Ile Ser			
50	55	60	
Gly Glu Pro Glu Thr Asn Leu Val Val Lys Ala Tyr Leu Leu Leu Glu			
65	70	75	80
Gln Glu Phe Gln Leu Pro Pro Val Asp Ile Tyr Leu Tyr Lys His Ile			
85	90	95	
Pro Ser Gly Ala Gly Leu Gly Gly Ser Ala Asp Ala Ala Phe Met			
100	105	110	
Leu Lys Leu Leu Asn Glu Lys Phe Asn Leu His Leu Ala Asp Glu Lys			
115	120	125	
Leu Glu Glu Tyr Ala Ala Ile Leu Gly Ala Asp Cys Ala Phe Phe Ile			
130	135	140	
Lys Asn Lys Pro Thr Phe Ala Glu Gly Ile Gly Asn Ile Phe Ser Pro			
145	150	155	160
Val Asp Leu Ser Leu Lys Gly Tyr Gln Leu Val Leu Val Lys Pro Asp			
165	170	175	
Val Phe Val Ser Thr Arg Asp Ala Phe Ser Gln Ile Gln Pro His Tyr			
180	185	190	
Pro Asp His Ser Leu Lys Glu Ile Ile Arg Arg Pro Val Ser Glu Trp			
195	200	205	
Lys Asn Cys Met Phe Asn Asp Phe Glu Lys Ser Val Phe Pro Gln Tyr			
210	215	220	
Pro Val Ile Glu Glu Ile Lys Lys Glu Leu Tyr Ser Lys Gly Ala Ile			
225	230	235	240
Tyr Ala Ala Met Ser Gly Ser Gly Ser Ser Val Phe Gly Leu Phe Ser			
245	250	255	
Pro Glu Glu Lys Ile Thr Lys Met Asp Phe Glu Ala Ala Phe Cys Phe			
260	265	270	
Gln Thr Glu Leu Lys			
275			

<210> 9329

<211> 598

<212> PRT

<213> B.fragilis

<400> 9329

Lys Leu Gln Ile Lys Ile Asn Lys Leu Met Lys Ser Ile Lys Arg Ile			
1	5	10	15

Phe Phe Leu Leu Ser Phe Ile Ser Val Ser Tyr Leu Ser Thr Phe Ala
 20 25 30
 Gln Glu Asn Gln Ser Tyr Phe Leu His Thr Ile Glu Lys Gly Gln Ser
 35 40 45
 Leu Tyr Ser Ile Ser Ser Met Tyr Gly Val Ser Lys Ala Asp Ile Ile
 50 55 60
 Arg Leu Asn Pro Gly Cys Glu Asp Lys Ile Tyr Ala Gly Gln Ala Ile
 65 70 75 80
 Lys Ile Pro Gln Asn Lys Thr Ala Gln Lys Gly Glu Thr Phe His Thr
 85 90 95
 Ile Gln Pro Gly Glu Thr Leu Tyr Arg Leu Thr Thr Tyr Lys Val
 100 105 110
 Ser Ala Lys Ala Ile Cys Asp Ala Asn Pro Gly Leu Ser Ala Glu Asn
 115 120 125
 Phe Arg Ile Gly Gln Val Ile Arg Ile Pro Ser Ala Ala Glu Ala Ile
 130 135 140
 Asp Ser Thr Val Glu Ala Val Val Ala Ala Pro Ser Glu Pro Ala Met
 145 150 155 160
 Gln Pro Ala Val Lys Pro Arg Cys Lys Asp Met His Lys Val Lys Arg
 165 170 175
 Arg Glu Thr Ile Phe Ser Val Ser Arg Glu Tyr Gly Ile Ser Glu Gln
 180 185 190
 Glu Leu Ile Ala Ala Asn Pro Glu Leu Lys Asn Gly Met Lys Lys Gly
 195 200 205
 Gln Phe Leu Cys Ile Pro Tyr Pro Ser Glu Lys Pro Thr Val Thr Val
 210 215 220
 Pro Lys Thr Asp Ala Asn Ile Ile Pro Pro Ser Asp Ser Glu Leu Phe
 225 230 235 240
 Arg Glu Asn Lys Glu Val Pro Lys Ser Ile Ser Thr Ile Lys Ala Ala
 245 250 255
 Leu Leu Leu Pro Phe Asp Asp Lys Arg Met Val Glu Tyr Tyr Glu Gly
 260 265 270
 Phe Leu Met Ala Val Asp Ser Leu Lys Arg Thr Gly Thr Ser Ile Asp
 275 280 285
 Leu Tyr Val Tyr Asp Cys Asn Lys Glu Ser Ser Ser Leu Asn Ser Ile
 290 295 300
 Leu Ala Lys Ser Glu Met Lys Asn Met Asn Val Ile Phe Gly Pro Ala
 305 310 315 320
 Gln Gln Gln His Ile Lys Pro Leu Ala Ala Phe Ala Lys Lys Asn Asp
 325 330 335
 Ile Arg Leu Val Ile Pro Phe Ser Ser Lys Glu Gly Glu Val Phe Asn
 340 345 350
 Asn Pro Phe Ile Tyr Gln Ile Asn Thr Pro Gln Ser Tyr Leu Tyr Ser
 355 360 365
 Glu Val Tyr Glu His Phe Thr Arg Gln Phe Pro Asn Ala Asn Val Ile
 370 375 380
 Leu Leu Glu Ser Ala Val Val Asp Lys Asp Lys Val Glu Phe Ile Lys
 385 390 395 400
 Gly Leu Lys Gln Glu Leu Gly Ser Lys Gly Ile Pro Val Lys Thr Leu
 405 410 415
 Lys Glu Asn Ala Pro Val Glu Ala Leu Lys Ala Ala Leu His Asn Asp
 420 425 430
 Lys Glu Asn Phe Phe Ile Pro Thr Ser Gly Asn Asp Leu Thr Leu Leu
 435 440 445
 Arg Ile Ile Pro Gln Leu Thr Leu Leu Val Arg Asp Asn Pro Glu Ala
 450 455 460
 Arg Ile His Leu Phe Gly Tyr Pro Glu Trp Gln Thr Tyr Thr Lys Asp
 465 470 475 480
 His Leu Glu Ser Phe Phe Glu Leu Asp Thr Tyr Phe Tyr Ser Ser Phe

485	490	495
Tyr Thr Asn Asn Leu Leu Pro Ala Ala Ile Asn Phe Thr Gln Ala Tyr		
500	505	510
Arg Lys Trp Tyr Ser Lys Glu Met Glu Glu Arg Tyr Pro Lys Tyr Gly		
515	520	525
Met Leu Gly Phe Asp Thr Gly Tyr Phe Leu Lys Gly Leu Ser Lys		
530	535	540
Tyr Gly Ser Glu Leu Glu Lys Asn Leu Pro Gln Met Asp Leu Thr Pro		
545	550	555
Ile Gln Thr Gly Phe Lys Phe Gln Arg Val Asn Asn Trp Gly Gly Phe		
565	570	575
Val Asn Lys Lys Val Phe Phe Val His Phe Thr Lys Asn Phe Glu Leu		
580	585	590
Ile Lys Leu Asp Phe Glu		
595		

<210> 9330

<211> 452

<212> PRT

<213> B.fragilis

<400> 9330

Thr Asp Lys Ile Gln Asn Cys Met Leu Lys Thr Phe Ser Ile Gly Gly		
1	5	10
Val His Pro His Glu Asn Lys Leu Ser Ala His Gln Pro Ile Val Thr		
20	25	30
Ala Glu Val Pro Ala Lys Ala Val Ile Leu Leu Gly Gln His Ile Gly		
35	40	45
Ala Pro Ala Lys Pro Ile Val Ala Lys Gly Asp Val Val Lys Val Gly		
50	55	60
Thr Lys Ile Ala Glu Ala Asn Gly Phe Val Ser Ala Ala Ile His Ser		
65	70	75
Ser Val Ser Gly Lys Val Ala Lys Ile Asp Ser Ile Val Asp Ala Ser		
85	90	95
Gly Tyr Ala Lys Pro Ala Ile Phe Ile Asp Val Asp Gly Asp Glu Trp		
100	105	110
Glu Glu Ser Ile Asp Arg Ser Pro Glu Leu Val Lys Glu Cys Glu Leu		
115	120	125
Thr Ser Glu Glu Ile Val Lys Lys Ile Ala Asp Ala Gly Ile Val Gly		
130	135	140
Leu Gly Gly Ala Cys Phe Pro Thr Gln Val Lys Leu Cys Pro Pro Pro		
145	150	155
Ser Phe Lys Ala Glu Cys Val Ile Ile Asn Ala Val Glu Cys Glu Pro		
165	170	175
Tyr Leu Thr Ala Asp His Gln Leu Met Leu Glu His Ala Glu Glu Val		
180	185	190
Met Val Gly Val Ala Ile Leu Met Lys Ala Val Lys Val Asn Lys Ala		
195	200	205
Phe Ile Gly Ile Glu Asn Asn Lys Pro Asp Ala Ile Gln Leu Met Thr		
210	215	220
Lys Val Ala Ser Ser Tyr Ala Gly Ile Glu Val Val Pro Leu Lys Val		
225	230	235
Lys Tyr Pro Gln Gly Gly Glu Lys Gln Leu Ile Asp Ala Ile Thr Lys		
245	250	255
Arg Gln Val Ala Ser Gly Ala Leu Pro Ile Ser Thr Gly Ala Val Val		
260	265	270
Gln Asn Val Gly Thr Ala Phe Ala Val Tyr Gln Ala Val Gln Lys Asn		
275	280	285
Lys Pro Leu Phe Glu Arg Val Ile Thr Val Thr Gly Lys Ser Val Ala		

290	295	300
Gln Pro Ser Asn Phe Leu Ala Arg Ile Gly Thr	Pro Met Gln Gln Leu	
305	310	315
Ile Asp Ala Cys Gly Gly Leu Pro Glu Asp Thr	Gly Lys Ile Ile Gly	320
325	330	335
Gly Gly Pro Met Met Gly Lys Ala Leu Val Asn	Thr Asp Val Pro Thr	
340	345	350
Ala Lys Gly Ser Ser Gly Ile Leu Ile Met Asn	Arg Lys Glu Ala Lys	
355	360	365
Arg Gly Glu Val Gln Asn Cys Ile Arg Cys Ala	Lys Cys Val Ser Ala	
370	375	380
Cys Pro Met Gly Leu Glu Pro Tyr Leu Leu Ser	Ala Leu Ala Glu Asn	
385	390	395
Thr Glu Phe Glu Arg Met Glu Ser Glu Arg Ile	Met Asp Cys Ile Glu	400
405	410	415
Cys Gly Ser Cys Gln Phe Thr Cys Pro Ala Asn	Arg Pro Leu Leu Asp	
420	425	430
Tyr Cys Arg Leu Gly Lys Gly Val Gly Ala Met	Ile Arg Ala Arg	
435	440	445
Gln Ala Lys Lys		
450		

<210> 9331

<211> 423

<212> PRT

<213> B.fragilis

<400> 9331

Asn Asn Leu Ile Ile Lys Tyr Asn Thr Met Lys Asn	Tyr Leu Ile Thr		
1	5	10	15
Tyr Ser Cys Ala Met Phe Leu Leu Ala Ser Cys	Gly Ser Pro Ser Gln		
20	25	30	
Gln Pro Lys Ala Pro Gly Gln Ile Asp Ile Ala	Gly Lys Ile Glu Ser		
35	40	45	
Leu Thr Glu Leu Lys Ala Ser Asp Phe Ile Lys	Glu Ile Asn Tyr Val		
50	55	60	
Ala Leu Glu Thr Thr Asp Ser Cys Leu Val Asn	Glu Asn Pro Asn Ile		
65	70	75	80
Gln Val Phe Lys Asn Asn Ile Ile Val Asn Thr	Asn Lys Gln Cys Leu		
85	90	95	
Val Phe Asp Lys Asp Ser Gly Lys Phe Leu Arg	Ser Ile Gly His Ile		
100	105	110	
Gly Asn Asp Pro Gly Gly Tyr Ser Glu Ala Thr	Phe Trp Ile Asp Asp		
115	120	125	
Ile Thr Gly Glu Leu Tyr Phe Ile Gly Trp Asn	Gly Thr Leu Met Arg		
130	135	140	
Tyr Asp Leu Gln Gly Asn Tyr Leu Gly Asp Val	Lys Val Ala Ser Asn		
145	150	155	160
Leu Gly Val Arg Asn Pro Ala Cys Phe Val Phe	Thr Asp Ser Leu Ile		
165	170	175	
Val Ser His Gln Leu Ser Leu Leu Pro Ile Gln	Gly Asn Glu Lys Lys		
180	185	190	
Ser Pro Phe Leu Leu Asp Lys Gln Gly Asn Val	Ile Asp Ser Ile		
195	200	205	
Pro Ser Leu Leu Pro Val Ile Pro Val Thr Thr	Asn Val Val Arg Leu		
210	215	220	
Asn Ile Leu Lys Ser Glu Lys Ala Arg Glu Leu	Tyr Gly Asn Ile Gly		
225	230	235	240
Val His Gly Met Met Thr Ala Tyr Phe Asn Asp	Asp Ala Ile Glu		

245	250	255
Ser Pro Arg Val Leu Ser Thr Leu Trp Lys His Asn Gly	Lys Val Arg	
260	265	270
Phe Lys Glu Ala Tyr Leu Asp Thr Ile Tyr Thr Leu Ser	Glu Asn Lys	
275	280	285
Leu Ser Pro Tyr Leu Ile Phe Asn Thr Gly Lys Tyr His	Tyr Pro Ala	
290	295	300
Glu Glu Arg Tyr Gln Gln Lys Glu Asn Asp Glu Arg Val	Lys Ile Asp	
305	310	315
Tyr Val Met Glu Ser Thr Thr Leu Ile Ile Phe Gln Phe	Arg Gln Arg	
325	330	335
Gly Glu Val Tyr Thr Gly Ile Tyr Asn Lys Asp Thr Gln	Ile Thr Gln	
340	345	350
Ile Ala Lys Gly Gln Asn Phe Val Asn Asp Ile Asp His	Phe Met Pro	
355	360	365
Leu Asn Pro Arg Asn Cys Asn Thr Asp Asn Glu Tyr Val	Asp Leu Val	
370	375	380
Gln Ala Asn Thr Ile Leu Glu Trp Met Glu Glu His Pro	Glu Val Asn	
385	390	395
Pro Asp Gly Lys Phe Ser Phe Ile Lys Gly Ile Asn Glu	Glu Ser Asn	
405	410	415
Pro Val Val Ile Leu Met Lys		
420		

<210> 9332

<211> 279

<212> PRT

<213> B.fragilis

<400> 9332

Lys Arg Tyr Val Asp Leu Trp Cys Leu His Arg Phe Ala Asp	Gly Cys		
1	5	10	15
Tyr Pro Ser Val Trp Cys Ile Ser Gly Arg Tyr Val Val	Cys Tyr Ser		
20	25	30	
Asp Tyr Glu Cys Ile His Ser Ala Asn Gln Tyr Val Leu	Gln Thr Lys		
35	40	45	
Thr Leu Trp Gly Gly Ser Glu Glu Met Lys Lys Leu Glu	Ser Ser		
50	55	60	
Leu Lys Asn Met Leu Leu Val Leu Thr Gly Val Thr Ala Ile	Ser Val		
65	70	75	80
Ala Leu Leu Ala Tyr Val Asn Glu Leu Thr Lys Gly Pro	Ile Ala Glu		
85	90	95	
Ala Asn Ala Lys Thr Leu Asn Glu Ala Leu Lys Glu Val	Leu Pro Glu		
100	105	110	
Phe Thr Asn Asn Pro Val Ala Glu Cys Asp Thr Val Phe	Ser Glu Lys		
115	120	125	
Asp Gly Lys Lys Ile Val Asp Phe Ile Ile Tyr Pro Ala	Lys Asn Gly		
130	135	140	
Asp Gln Trp Val Gly Thr Ala Val Glu Ala Lys Ser Met	Gly Phe Gly		
145	150	155	160
Gly Glu Leu Lys Val Leu Val Gly Phe Asp Ala Glu Gly	Lys Ile Tyr		
165	170	175	
Asn Tyr Ser Leu Leu Ser His Ala Glu Thr Pro Gly Leu	Gly Ser Lys		
180	185	190	
Ala Ala Asp Trp Phe Lys Glu Gly Asn Lys Gly Ser Ile	Lys Gly Met		
195	200	205	
Asn Pro Gly Glu Gln Pro Leu Thr Val Ser Lys Asp Gly	Gly Gln Val		
210	215	220	
Asp Ala Ile Thr Ala Ser Thr Ile Thr Ser Arg Ala Phe	Leu Asn Ala		

225	230	235	240
Val Asn Ala Ala Tyr Gly Ala Tyr Lys Gly Asn Gly		Gly Ala Asn Gly	
245		250	255
Thr Thr Gly Ala Ser Gln Lys Val Val Gln Lys Ser Glu	Thr Gly Ile		
260	265	270	
Val Asp Ser Val Val Ile Lys			
275			

<210> 9333

<211> 548

<212> PRT

<213> B.fragilis

<400> 9333

Phe Ser Leu Leu Ile Lys Leu Tyr Arg Ile Met Ser His Ile Asp Arg			
1	5	10	15
Met Arg Gln Leu Gly Asn Ile Ala Leu Pro Asn Glu Asp Ser Pro Leu			
20	25	30	
His Asp Ile Ile Val Lys Lys Leu Lys His Asp Ser Pro Asp Ile			
35	40	45	
Gln Lys Arg Val Gly Glu Ala Phe Asn Lys Ala Phe Ala Ile Val Asp			
50	55	60	
Ala Gln Arg Lys Asn Gly Ala Asn Leu Pro Ile Asp Ile Glu Leu Arg			
65	70	75	80
Tyr Tyr Leu Glu Glu Phe Asn Ser Arg Ala Trp Lys Tyr Gly Leu Arg			
85	90	95	
Thr Met Pro Ser Ser Phe Asn Val Met Glu Ala Phe Phe Thr Tyr Asn			
100	105	110	
Pro Gln Leu Asn Ser Phe Phe Leu Leu Asp Glu Glu Asp Phe Leu Ile			
115	120	125	
Asp Phe Ile Asp Phe Ile Asp Tyr Ala Thr Ser Lys Asp Cys Pro Asn			
130	135	140	
Lys Ile Glu Glu Ser Leu Lys Leu Phe Asp Glu Asp Arg Ile Tyr Asn			
145	150	155	160
Phe Thr Val Thr Asn Asn Pro Pro Asp Ile Asp Phe Ser Leu Leu Asp			
165	170	175	
Asn Lys Ile Lys Tyr Ala Ile Gly Gly Val Ser Met Ile Lys Arg Gly			
180	185	190	
Asp Glu Val Ser Met Ile Leu Leu Ala Gly Glu Lys Asn Ser Asp Leu			
195	200	205	
Ser Leu Pro Pro Leu Lys Glu Thr Lys Arg Ile Pro Gly Lys Ser Arg			
210	215	220	
Leu Glu Tyr Ser Pro Asp Arg Val Gln Glu Lys Val Arg Phe Trp Asp			
225	230	235	240
Asp Glu Gly Tyr Trp Lys Thr Ile Ile Leu Leu Arg Phe Asp Val Leu			
245	250	255	
Thr Met Glu Leu Asp Ala Lys Phe Ile Asn Lys Asp Met Gly Asn Ser			
260	265	270	
Phe Ser Val Leu Thr Asp Tyr Ile Glu Ser Phe Leu Ser Glu Lys Gly			
275	280	285	
Glu Phe Leu Phe Pro Glu Ala Glu Asn Tyr Leu Asn Glu Gln Lys Val			
290	295	300	
Lys Ile Gln Asn Tyr Tyr Pro Leu Phe Glu Ile Ala Arg Thr Cys Leu			
305	310	315	320
His Leu Leu Ser Tyr Val Glu Lys Tyr Thr Asp Ser Leu Ser Ser Glu			
325	330	335	
Glu His Ile Thr Val Leu Gly His Glu Pro Ile Lys Pro Arg Phe Phe			
340	345	350	
Lys Lys Asp Lys Met Val Pro Pro Lys Tyr Glu Leu Arg Lys Arg Asp			

355	360	365
Val Trp Asn Leu Lys Arg Gln Arg Asp Asn Tyr Ser Ser Ser Ile Ile		
370	375	380
Thr Phe Asn Asp Asp Phe Lys Leu Glu Thr Ser Gly Tyr Trp Lys Ser		
385	390	395
Leu Lys Pro Asn Glu Ile Gly Gln Asn Lys Asn Gly Asp Glu Ile His		400
405	410	415
Gly Lys Thr Trp Val Ser Ile Thr Lys Thr Trp His Glu Thr Glu Asn		
420	425	430
Lys Pro Ile Lys Ile Thr Asn Asn Ile Lys Thr Leu Val Asn Ser Val		
435	440	445
Asn Ser Gly Phe Ile Tyr Ile Met Arg Asn Ala Ser His Glu Lys Asn		
450	455	460
Ile Phe Lys Val Gly Leu Thr Arg Arg Asp Cys Glu Thr Arg Ala Lys		
465	470	475
Glu Leu Ser Ser Ala Thr Gly Val Pro Asp Lys Tyr Leu Ile Val Glu		480
485	490	495
Glu Phe Ala Thr Ala Asp Cys Val Leu Ala Glu Lys Leu Ile His Glu		
500	505	510
Lys Leu Asp Asp Tyr Arg Leu Asn Asn Lys Arg Glu Phe Phe Lys Ala		
515	520	525
Asn Tyr Ser Phe Ile Arg Ala Thr Ile Asn Glu Ile Val Asn Glu Ile		
530	535	540
Asn Ser Asn Thr		
545		

<210> 9334

<211> 275

<212> PRT

<213> B.fragilis

<400> 9334

Leu Cys Ala Leu Phe Lys Tyr Arg Met Lys Lys Asn Ile Ile Thr		
1	5	10
Leu Leu Ala Ala Thr Val Leu Ser Ser Cys Gly Glu Tyr Asn Lys Leu		15
20	25	30
Leu Lys Ser Thr Asp Tyr Glu Tyr Lys Tyr Glu Ala Ala Lys Asn Tyr		
35	40	45
Phe Ala Lys Gly Gln Tyr Asn Arg Ser Ala Thr Leu Leu Asn Glu Leu		
50	55	60
Ile Thr Ile Leu Lys Gly Gly Asp Lys Ala Glu Glu Ser Leu Tyr Met		
65	70	75
Leu Ala Met Ser Tyr Tyr Asn Gln Lys Asp Tyr Ser Thr Ala Ala Gln		80
85	90	95
Ser Phe Ile Thr Tyr Phe Asn Thr Tyr Pro Arg Gly Gln Phe Ser Glu		
100	105	110
Leu Ala Arg Phe His Ala Gly Lys Ala Leu Phe Leu Asp Thr Pro Glu		
115	120	125
Pro Arg Leu Asp Gln Ser Ser Thr Tyr Gln Ala Ile Gln Gln Leu Gln		
130	135	140
Met Phe Leu Glu Tyr Tyr Pro Gln Ser Ser Arg Lys Gln Glu Ala Gln		
145	150	155
Asn Met Ile Phe Ala Leu Gln Asp Lys Leu Val Leu Lys Glu Leu Tyr		160
165	170	175
Ser Ala Arg Leu Tyr Tyr Asn Leu Gly Asn Tyr Met Gly Asn Asn Tyr		
180	185	190
Leu Ser Cys Val Ile Thr Ala Gln Asn Ala Leu Lys Asp Tyr Pro Tyr		
195	200	205
Thr Asp Tyr Arg Glu Asp Leu Ser Ile Leu Ile Leu Arg Ala Lys Tyr		

210	215	220
Glu	Met Ala Val Asn Ser	Glu Asp Lys Lys Met Asp Arg Tyr Arg
225	230	235
Glu	Thr Val Asp Glu Tyr Tyr Ala Phe Lys Asn Glu Phe Pro Glu Ser	240
	245	250
Lys	Tyr Leu Lys Glu Ala Glu Arg Ile Phe Lys Asp Ser Gln Lys Val	255
	260	265
Ile	Lys Asp	270
	275	

<210> 9335

<211> 71

<212> PRT

<213> B.fragilis

<400> 9335

Ser	Met Phe Phe Lys Ile Lys Lys Asn Gly Arg Ile Glu Phe Ser Tyr		
1	5	10	15
Glu	Trp Arg Ile Ser Ile Asp Gly Trp Leu Ile Tyr Lys Gln Tyr Ser		
	20	25	30
Ser	Tyr Ser Leu Thr Ile His His Leu Val Thr Asp Phe Thr Val Tyr		
	35	40	45
Thr	Ser Arg Leu Pro Pro Thr Ser Gln Leu Ser Phe Pro Ser Thr His		
	50	55	60
Gly	Tyr Ser Phe Pro Tyr His		
	65	70	

<210> 9336

<211> 177

<212> PRT

<213> B.fragilis

<400> 9336

Lys	Leu Pro Ser His Ser Arg Thr Val Ile Ser Asn Ile Leu Ser Tyr			
1	5	10	15	
Lys	Met Asn Thr Leu Met Thr Gln Ile His Glu Leu Gln His Val Ala			
	20	25	30	
His	Glu Leu Leu Tyr Leu Gly Ala Asp Gly Ser Pro Ile Tyr Thr Asp			
	35	40	45	
Ser	Phe Arg Gln Leu Asn Thr Glu Val Leu Gln Lys Ser Asp Ala Leu			
	50	55	60	
Phe	Ala Leu Lys Gly Glu Asn Pro Glu Glu Ala Arg Leu Cys Leu			
	65	70	75	80
Ala	Leu Leu Met Gly Tyr Asn Ala Thr Ile Tyr Asp Tyr Gly Asp Lys			
	85	90	95	
Glu	Ser Lys Lys Gln Val Ile Leu Asp Arg Ser Leu Leu Val Leu Glu			
	100	105	110	
Ser	Leu Pro Ser Ser Leu Leu Lys Cys Gln Leu Leu Thr Tyr Cys Tyr			
	115	120	125	
Gly	Glu Val Phe Glu Glu Leu Ala Lys Glu Ala His Ala Ile Ile			
	130	135	140	
Asp	Tyr Trp Asp Asn Lys Thr Leu Ser Ile Asp Glu Gln Glu Thr Val			
	145	150	155	160
Asp	Met Leu Lys Met Ile Glu Glu Asn Gln Tyr Pro Asn Ser Tyr Ile			
	165	170	175	
Asp				

<210> 9337

<211> 161
<212> PRT
<213> B.fragilis

<400> 9337

Leu	Phe	Tyr	Ser	Gly	Leu	Asn	Thr	Thr	Leu	Lys	Thr	Met	Ile	Gln	Arg
1				5					10					15	
Ile	Gln	Thr	Ile	Tyr	Leu	Leu	Leu	Val	Thr	Ala	Leu	Leu	Ile	Thr	Ser
				20				25					30		
Met	Cys	Leu	Pro	Val	Gly	Ser	Phe	Ile	Gly	Ala	Asp	Ala	Ala	Met	Tyr
				35			40				45				
Val	Phe	Lys	Pro	Leu	Gly	Val	Glu	Met	Asn	Gly	Thr	Leu	Tyr	Ser	Thr
				50			55				60				
Trp	Gly	Val	Phe	Gly	Ile	Leu	Leu	Leu	Ser	Ala	Ile	Ile	Ala	Phe	Ala
				65			70		75				80		
Thr	Ile	Phe	Leu	Phe	Lys	Asn	Arg	Met	Leu	Gln	Ile	Arg	Met	Thr	Ile
				85				90				95			
Phe	Asn	Ser	Ile	Leu	Leu	Ile	Gly	Tyr	Tyr	Leu	Thr	Phe	Leu	Ala	Phe
				100				105			110				
Met	Phe	Val	Leu	Lys	Lys	Asp	Leu	Ser	Ala	Thr	Phe	Gln	Ile	Ser	Trp
				115			120			125					
Ala	Leu	Cys	Leu	Pro	Leu	Ile	Ser	Ile	Ile	Leu	Asn	Trp	Leu	Ala	Val
				130			135			140					
Arg	Ala	Ile	Gly	Arg	Asp	Glu	Val	Met	Val	Lys	Ala	Ala	Asp	Arg	Leu
				145			150			155			160		
Arg															

<210> 9338
<211> 106
<212> PRT
<213> B.fragilis

<400> 9338

Ser	Gln	Tyr	Ser	Gly	Phe	Asp	Gly	Ser	Ser	Val	Asp	Asn	Asn	Lys	Leu
1					5				10					15	
Gln	Glu	Ile	Gln	Lys	Gln	Val	Met	Ile	Lys	Tyr	Leu	Ile	Glu	Lys	Glu
					20			25				30			
Phe	Lys	Gln	Leu	Leu	Arg	Asn	Ser	Phe	Leu	Pro	Arg	Leu	Ile	Phe	Ile
					35			40			45				
Phe	Pro	Cys	Met	Ile	Met	Leu	Leu	Met	Pro	Trp	Ala	Ala	Asn	Leu	Asp
					50			55			60				
Ile	Lys	Asn	Ile	Arg	Met	Asn	Ile	Ile	Asp	Asn	Asp	His	Ser	Val	Ser
					65			70		75			80		
Ser	Arg	Arg	Leu	Val	Asp	Lys	Ile	Thr	Asp	Ser	Thr	Tyr	Phe	Gln	Thr
					85			90			95				
Asn	Ala	Trp	Arg	Ile	Leu	Thr	Lys	Lys	Val						
				100			105								

<210> 9339
<211> 60
<212> PRT
<213> B.fragilis

<400> 9339

Val	Ile	Lys	Ser	Leu	Phe	Met	Leu	Gly	Ile	Ser	Ile	Leu	Val	Val	Leu
1					5			10					15		
Tyr	Val	Tyr	Asp	Ala	Gly	Ile	Ser	Pro	Asn	Ala	Ala	Val	Val	Leu	Asn
					20			25			30				

Glu Tyr Pro Met Thr Arg Ile Val Pro Glu Arg Val Ser Asn Phe Pro
 35 40 45
 Phe Phe Ser Thr Gly Glu Ala Pro Phe Glu Val
 50 55 60

<210> 9340
 <211> 1168
 <212> PRT
 <213> B.fragilis

<400> 9340
 Lys Arg Lys Ser Ile Ile Leu Lys Lys Arg Glu Ser Glu Ser Thr Pro
 1 5 10 15
 Ile Leu Ser Asp Ser Lys Gln Ser Lys Ile Asp Leu Asn Gln Phe Ile
 20 25 30
 Asn Leu Thr Arg Tyr Lys Asp Met Arg Lys Ile Ser Leu Pro Arg His
 35 40 45
 Leu Cys Pro Lys Asn Phe Val Ser Lys Gln Ile Leu Leu Ala Met Lys
 50 55 60
 Ile Thr Leu Phe Leu Leu Phe Phe Val Ala Phe Gln Ala Tyr Ser Glu
 65 70 75 80
 Asn Gly Tyr Ser Gln Ser Thr Lys Ile Ser Ile Pro Arg Ser Ser Leu
 85 90 95
 Lys Val Ser Glu Leu Leu Ser Lys Ile Glu Ser Gln Thr Lys Tyr Leu
 100 105 110
 Phe Val Tyr Asn Lys Lys Asn Val Asp Thr Arg Arg Trp Val Asn Val
 115 120 125
 Gln Ala Asp Asn Lys Ala Val Ser Glu Val Leu Asp Gln Ala Phe Lys
 130 135 140
 Gly Thr Asn Ile Lys Tyr Val Met Glu Gly Asn Asn Ile Val Leu Thr
 145 150 155 160
 Arg Asn Asn Asp Asn Ala Ile Thr Ala Gln Gln Asp Arg Val Thr Val
 165 170 175
 Lys Gly Val Val Thr Asp Gln Asn Gly Asp Pro Ile Ile Gly Ala Asn
 180 185 190
 Val Leu Glu Lys Gly Thr Thr Asn Gly Cys Ile Thr Asp Met Glu Gly
 195 200 205
 Asn Phe Thr Leu Asn Val Pro Ser Asn Ala Thr Leu Ala Ile Thr Tyr
 210 215 220
 Ile Gly Tyr Gln Pro Gln Asn Ile Gln Val Asn Gly Arg Gln Ser Phe
 225 230 235 240
 Asn Val Lys Leu Gln Glu Glu Ala Met Ala Leu Glu Gln Val Val Val
 245 250 255
 Thr Ala Met Gly Ile Lys Lys Glu Ala Ser Leu Thr Tyr Ser Thr
 260 265 270
 Gln Gln Val Gly Gly Asp Glu Leu Thr Arg Ala Lys Asp Pro Asn Met
 275 280 285
 Ile Asn Ala Leu Ala Gly Lys Thr Ala Gly Val Gln Ile Thr Lys Ser
 290 295 300
 Ser Ser Gly Leu Gly Gly Ser Ala Lys Val Ser Ile Arg Gly Ser Arg
 305 310 315 320
 Ser Ile Ser Gly Asn Asn Gln Pro Leu Tyr Val Ile Asp Gly Val Pro
 325 330 335
 Met Leu Asn Ser Ser Asn Glu Gln Ala Ser Thr Ala Ile Gly Gly Thr
 340 345 350
 Ala Asp Ala Gly Asn Arg Asp Gly Gly Asp Gly Ile Ser Asn Leu Asn
 355 360 365
 Pro Asp Asp Ile Glu Ser Met Ser Ile Leu Lys Gly Ala Ser Ala Ala
 370 375 380

Ala Leu Tyr Gly Ser Gln Ala Ala Asn Gly Val Ile Leu Ile Thr Thr
 385 390 395 400
 Lys Lys Gly Lys Ala Gly Ile Gln Lys Ile Thr Phe Ser Ser Asn Leu
 405 410 415
 Thr Val Asp His Ala Ile Cys Leu Pro Glu Phe Gln Asn Asn Tyr Ala
 420 425 430
 Met Asp Pro Glu Ala Lys Asn Ser Trp Gly Lys Asn Gln Thr Leu Lys
 435 440 445
 Asp Tyr Asn Asn Ala Asp Asn Phe Phe Gln Asn Gly Val Thr Ala Ile
 450 455 460
 Asn Ser Val Ser Phe Met Asn Gly Ser Glu Lys Met Gln Thr Tyr Phe
 465 470 475 480
 Ser Tyr Ala Asn Thr Thr Ala Lys Gly Ile Val Glu Lys Asn Lys Met
 485 490 495
 Gln Lys His Asn Leu Asn Phe Arg Glu Thr Ala Asn Phe Phe Asn Asp
 500 505 510
 Tyr Leu Lys Leu Asp Ala Asn Val Asn Leu Met Thr Gln Thr Ile Lys
 515 520 525
 Asn Arg Pro Thr Ser Gly Gly Tyr Tyr Met Asn Pro Leu Val Gly Leu
 530 535 540
 Tyr Gly Phe Pro Arg Gly Glu Asp Leu Ser Glu Tyr Lys Asn Asn Phe
 545 550 555 560
 Glu Val Phe Asp Pro Ala Arg Asn Met Asn Val Gln Asn Trp Tyr Thr
 565 570 575
 Ser Tyr Gln Asp Met Glu Gln Asn Pro Tyr Trp Ile Thr Asn Arg Ile
 580 585 590
 Asn Ser Asn Asp Lys Arg Thr Arg Ala Ile Ala Ser Leu Thr Ala Asn
 595 600 605
 Val Lys Ile Thr Asp Trp Leu Asn Ile Gln Ala Arg Gly Thr Ala Asp
 610 615 620
 Tyr Thr His Asp Gln Tyr Gln Gln Arg Met Tyr Ala Ser Thr Ala Pro
 625 630 635 640
 Ala Leu Ala Gly Gln Asn Gly Arg Tyr Ile Asp Leu Asn His Thr Glu
 645 650 655
 Thr Leu Tyr Tyr Gly Asp Val Met Ala Met Val Asn Lys Lys Trp Asn
 660 665 670
 Asp Phe Ser Leu Asn Gly Ala Ile Gly Gly Ser Ile Asn Ser Thr Asn
 675 680 685
 Val Asn Ser Leu Arg Leu Asp Ser Lys Thr Ala Ser Leu Tyr Tyr Pro
 690 695 700
 Asn Val Phe Thr Val Ala Asn Ile Lys Met Thr Gln Ala Ala Tyr Ile
 705 710 715 720
 Asp Glu Gln Met Asn Gln Lys Arg Val Leu Gln Ser Leu Phe Gly Thr
 725 730 735
 Ala Gln Leu Gly Trp Lys Glu Ser Leu Tyr Leu Asp Val Thr Ala Arg
 740 745 750
 Asn Asp Trp Ser Ser Thr Leu Ala Tyr Thr Lys His Ser Ser Phe Phe
 755 760 765
 Tyr Pro Ser Val Gly Leu Ser Trp Val Leu Asn Asn Thr Val Lys Leu
 770 775 780
 Pro Glu Trp Ile Ser Phe Gly Lys Ile Arg Gly Ser Trp Ser Lys Val
 785 790 795 800
 Gly Asn Asp Leu Pro Leu Phe Ile Ser Asn Ser Ile Pro Gly Ser Asn
 805 810 815
 Asp Ile Ile Gly Ala Gly Ala Ile Val Thr Tyr Ser Lys Ala Pro
 820 825 830
 Phe Asn Asp Leu Lys Pro Glu Met Ser Thr Ser Tyr Glu Ile Gly Thr
 835 840 845
 Glu Trp Ile Phe Phe Asn Tyr Arg Leu Asp Leu Asp Ile Ser Tyr Tyr

850	855	860
Arg Thr Asn Thr Lys Asn Gln Leu Phe Thr Leu Pro Ser Ser Ala Gly		
865	870	875
Ala Asp Tyr Lys Tyr Tyr Met Val Asn Ala Gly Asn Ile Gln Asn Glu		880
885	890	895
Gly Val Glu Ile Thr Leu Gly Ala Thr Pro Val Met Asn Asp Ala Phe		
900	905	910
Arg Trp Lys Thr Gln Phe Asn Phe Ser Thr Asn Lys Asn Lys Ile Ile		
915	920	925
Lys Leu His Pro Asp Leu Lys Thr Phe Val Tyr Gly Asp Glu Ser Phe		
930	935	940
Ser Ser Ser Tyr Ser Met Arg Leu Val Glu Gly Gly Ser Phe Gly Asp		
945	950	955
Ile Tyr Gly Lys Ala Phe Glu Arg Asp Glu Asn Gly Lys Val Ala Phe		960
965	970	975
Thr Thr Asp Lys Asp Gly Asp Lys Ile Pro Asn Val Ile Gly Gly Gly		
980	985	990
Asn Thr Glu Lys Val Gly Asn Cys Asn Pro Asp Phe Met Leu Gly Trp		
995	1000	1005
Ser Asn Thr Phe Thr Tyr Lys Gly Phe Ser Leu Tyr Phe Leu Ile Asp		
1010	1015	1020
Gly Arg Phe Gly Gly Asp Val Leu Ser Gln Thr Gln Ala Glu Leu Asp		
1025	1030	1035
Gln Arg Gly Val Ser Leu Asn Ser Gly Lys Ala Arg Asp Ala Gly Tyr		1040
1045	1050	1055
Ile Asn Ile Asp Gly Thr Gln Val Lys Pro Arg Lys Phe Tyr Thr Ala		
1060	1065	1070
Val Ser Gly Arg Asp Gly Cys Thr Glu Tyr Tyr Met Tyr Asp Ala Thr		
1075	1080	1085
Asn Ile Arg Leu Arg Glu Leu Ser Leu Gly Tyr Ser Leu Pro Gln Ser		
1090	1095	1100
Trp Leu Ala Lys Ala Gly Ala Phe Lys Asp Val Gln Leu Ser Phe		
1105	1110	1115
Val Ala Arg Asn Leu Phe Phe Ile Ser Lys Lys Ala Pro Phe Asp Pro		1120
1125	1130	1135
Asp Ala Val Leu Ser Thr Gly Asn Asp Asn Gln Gly Ile Asp Val Phe		
1140	1145	1150
Gly Met Pro Thr Thr Arg Ser Leu Gly Phe Asn Ile Lys Phe Thr Phe		
1155	1160	1165

<210> 9341

<211> 810

<212> PRT

<213> B.fragilis

<400> 9341

Ser Ile Phe Pro Ser Ala Pro Glu Thr Ser Pro Phe Thr Leu Asn Leu		
1	5	10
Gly Ser Glu Leu Gln Glu Leu Lys Ala Arg Ala Thr Arg Ala Thr Asn		15
20	25	30
Val Thr Phe Phe Ile Ile Phe Val Leu Phe Phe Lys Leu Gln Ile Tyr		
35	40	45
Phe Phe Ser Arg Leu Val Lys Ala Phe Cys Arg Val Leu Arg Ser Lys		
50	55	60
Ile Glu Lys Asn Gln Ile Pro Ala Asn Phe Leu Ser His Phe His Asp		
65	70	75
Ile Ser Ala Ile Asn Val Tyr Leu Cys Gly Asn Phe Glu Arg Lys Ile		80
85	90	95
Leu Asp Lys Thr Ile Phe Met Ile Asn Pro Ile Val Lys Thr Ile Glu		

100	105	110													
Leu	Gly	Asp	Gly	Arg	Thr	Ile	Thr	Leu	Glu	Thr	Gly	Lys	Leu	Ala	Lys
115								120				125			
Gln	Ala	Asp	Gly	Ser	Val	Met	Leu	Arg	Met	Gly	Asn	Thr	Met	Leu	Leu
130						135						140			
Ala	Thr	Val	Cys	Ala	Ala	Lys	Asp	Ala	Val	Pro	Gly	Thr	Asp	Phe	Met
145							150			155				160	
Pro	Leu	Gln	Val	Glu	Tyr	Lys	Glu	Lys	Phe	Ala	Ala	Phe	Gly	Arg	Phe
							165		170				175		
Pro	Gly	Gly	Phe	Thr	Lys	Arg	Glu	Gly	Arg	Ala	Ser	Asp	Tyr	Glu	Ile
							180		185				190		
Leu	Thr	Cys	Arg	Leu	Val	Asp	Arg	Ala	Leu	Arg	Pro	Leu	Phe	Pro	Asp
195								200				205			
Asn	Tyr	His	Ala	Glu	Val	Tyr	Val	Asn	Ile	Ile	Leu	Phe	Ser	Ala	Asp
210							215				220				
Gly	Val	Asp	Met	Pro	Asp	Ala	Leu	Ala	Gly	Leu	Ala	Ala	Ser	Ala	Ala
225								230			235				240
Leu	Ala	Val	Ser	Asp	Ile	Pro	Phe	Asn	Gly	Pro	Ile	Ser	Glu	Val	Arg
							245			250				255	
Val	Ala	Arg	Ile	Asp	Gly	Lys	Phe	Val	Ile	Asn	Pro	Thr	Phe	Asp	Gln
							260		265				270		
Leu	Glu	Gln	Ala	Asp	Met	Asp	Ile	Met	Val	Ala	Ala	Thr	Tyr	Glu	Asn
275								280				285			
Ile	Met	Met	Val	Glu	Gly	Glu	Met	Ser	Glu	Val	Ser	Glu	Ala	Glu	Leu
290							295				300				
Leu	Glu	Ala	Met	Lys	Val	Ala	His	Glu	Ala	Ile	Lys	Val	His	Cys	Lys
305								310			315				320
Ala	Gln	Met	Glu	Leu	Thr	Glu	Met	Val	Gly	Lys	Thr	Val	Lys	Arg	Glu
							325			330				335	
Tyr	Cys	His	Glu	Glu	Asn	Asp	Glu	Glu	Leu	Arg	Lys	Ala	Val	His	Asp
							340			345				350	
Ala	Cys	Tyr	Asp	Lys	Ser	Tyr	Ala	Ile	Ala	Ala	Ser	Gly	Asn	Arg	Asn
							355			360				365	
Lys	His	Glu	Arg	Gln	Asp	Ala	Phe	Asp	Ala	Ile	Arg	Asp	Glu	Phe	Lys
							370			375				380	
Ala	Gln	Phe	Ser	Glu	Glu	Glu	Leu	Glu	Glu	Lys	Gly	Ala	Leu	Ile	Asp
385								390			395				400
Arg	Tyr	Tyr	His	Asp	Val	Glu	Lys	Glu	Ala	Met	Arg	Arg	Cys	Ile	Leu
							405			410				415	
Asp	Glu	Gly	Lys	Arg	Leu	Asp	Gly	Arg	Lys	Thr	Thr	Glu	Ile	Arg	Pro
							420			425				430	
Ile	Trp	Cys	Glu	Val	Gly	Tyr	Leu	Pro	Gly	Pro	His	Gly	Ser	Ala	Ile
							435			440				445	
Phe	Thr	Arg	Gly	Glu	Thr	Gln	Ser	Leu	Thr	Ser	Val	Thr	Leu	Gly	Thr
							450			455				460	
Lys	Leu	Asp	Glu	Lys	Ile	Ile	Asp	Asp	Val	Leu	Ala	His	Gly	Lys	Glu
465								470			475				480
Arg	Phe	Leu	Leu	His	Tyr	Asn	Phe	Pro	Pro	Phe	Ser	Thr	Gly	Glu	Ala
							485			490				495	
Lys	Ala	Gln	Arg	Gly	Val	Gly	Arg	Arg	Glu	Ile	Gly	His	Gly	Asn	Leu
							500			505				510	
Ala	His	Arg	Ala	Leu	Lys	Arg	Met	Ile	Pro	Glu	Asp	Tyr	Pro	Tyr	Val
							515			520				525	
Val	Arg	Val	Val	Ser	Asp	Ile	Leu	Glu	Ser	Asn	Gly	Ser	Ser	Ser	Met
							530			535				540	
Ala	Thr	Val	Cys	Ala	Gly	Thr	Leu	Ala	Leu	Met	Asp	Ala	Gly	Val	Lys
545								550			555				560
Ile	Lys	Lys	Pro	Val	Ser	Gly	Ile	Ala	Met	Gly	Leu	Ile	Lys	Asn	Ala
							565			570				575	

Gly Glu Glu Lys Tyr Ala Val Leu Ser Asp Ile Leu Gly Asp Glu Asp
 580 585 590
 His Leu Gly Asp Met Asp Phe Lys Val Thr Gly Thr Lys Asp Gly Ile
 595 600 605
 Thr Ala Thr Gln Met Asp Ile Lys Val Asp Gly Leu Ser Tyr Glu Ile
 610 615 620
 Leu Glu Arg Ala Leu Asn Gln Ala Lys Glu Gly Arg Met His Ile Leu
 625 630 635 640
 Gly Lys Ile Glu Glu Thr Ile Ser Glu Pro Arg Thr Glu Leu Lys Asp
 645 650 655
 His Ala Pro Arg Ile Glu Thr Met Thr Ile Pro Lys Glu Phe Ile Gly
 660 665 670
 Ala Val Ile Gly Pro Gly Gly Lys Ile Ile Gln Gly Met Gln Glu Glu
 675 680 685
 Thr Gly Ala Thr Ile Thr Ile Glu Glu Ile Asp Asn Val Gly Arg Ile
 690 695 700
 Glu Ile Ser Gly Thr Asn Lys Lys Ser Ile Asp Asp Ala Ile Arg Leu
 705 710 715 720
 Ile Lys Gly Ile Val Ala Val Pro Glu Val Gly Glu Val Tyr Lys Gly
 725 730 735
 Lys Val Arg Ser Ile Met Pro Tyr Gly Ala Phe Val Glu Phe Leu Pro
 740 745 750
 Gly Lys Asp Gly Leu Leu His Ile Ser Glu Ile Asp Trp Lys Arg Leu
 755 760 765
 Glu Thr Val Glu Glu Ala Gly Ile Lys Glu Gly Asp Glu Ile Glu Val
 770 775 780
 Lys Leu Ile Asp Ile Asp Pro Lys Thr Gly Lys Phe Lys Leu Ser Arg
 785 790 795 800
 Lys Val Leu Leu Pro Arg Pro Glu Lys Lys
 805 810

<210> 9342

<211> 538

<212> PRT

<213> B.fragilis

<400> 9342

Val Met Asn Thr Lys Thr Lys Leu Leu Tyr Val Gly Phe Arg Ala Leu
 1 5 10 15
 Asn Thr Cys Cys Leu Tyr Ala Ala Phe Leu Met Ile Thr Ser Cys Gly
 20 25 30
 Asp Asn Val Val Asn Pro Asp Ser Pro Glu Pro Asp Gly Glu Asp Met
 35 40 45
 Ile Pro Val Thr Val Ser Arg Val Glu Asp Gly Ser Tyr Met Glu Ser
 50 55 60
 His Ile Asp Thr Pro Asp Thr Thr Gly Gly Arg Thr Leu Val Asp Glu
 65 70 75 80
 Trp Val Pro Val Lys Glu Pro Pro Ala Ser Arg Ala Ile Pro Ala Ala
 85 90 95
 Val Pro Tyr Glu Gly Pro Ser Ala Val Arg Met Thr Leu Arg Glu Glu
 100 105 110
 Pro Gln Val Pro Thr Arg Ala Ala Thr Leu Gly Asn Gly Ile Tyr Phe
 115 120 125
 Arg Leu Ile Ala Phe Arg Lys Val Gly Ser Asn Tyr Val Phe Gln Ser
 130 135 140
 Ala Ala Asp Phe Thr Thr Asn Gly Ala Ser Ala Pro Thr Leu Arg Leu
 145 150 155 160
 Gly Asn Leu Leu Thr Arg Ala Gly Thr Val Arg Val Ile Gly Tyr Ser
 165 170 175

Phe Asn Ser Thr Ala Ala Met Gly Thr Ile Pro Ser Ser Tyr Thr Tyr
 180 185 190
 Asn Ser Thr Ser Val Thr Ile Pro Asn Met Asn Ser Asp Phe Met Val
 195 200 205
 Tyr Asp Ser Gly Glu Ile Ala Asn Val Ser Thr Ile Ser His Asn Leu
 210 215 220
 Ser Val Ser Phe Thr Gln Lys Leu Cys Lys Leu Thr Val Lys Leu Ser
 225 230 235 240
 Leu Ser Gln Phe Val Ser Asn Thr Phe Thr Asn Cys Thr Gly Val Tyr
 245 250 255
 Val Ser Gln Gly Gly Asn Thr Ser Ala Trp Thr Ile Gly Pro Ser Thr
 260 265 270
 Asn Asn Val Ser Ala Asn Thr Gly Asn Thr Pro Thr Phe Asn Ile Ala
 275 280 285
 Asn Asn Ser Thr Ala Thr Ile Arg Leu Val Pro Phe Ser Gly Ser Arg
 290 295 300
 Ala Ile Thr Val His Ile Gly Thr Leu Thr Leu Ser Asn Tyr Phe Asn
 305 310 315 320
 Ala Asn Asn Arg Asn Ile Thr Ser Ser Gln Asn Val Gln Leu Leu Pro
 325 330 335
 Gly Arg Ser Tyr Thr Ile Thr Leu Gln Ile Gly Leu Gly Ile Gln Val
 340 345 350
 Ala Ala Ser Asp Ile Asn Leu Thr Gln Asn Gly Cys Thr Ala Ser Asp
 355 360 365
 Lys Asn Asp Leu Ala Lys Leu Arg Trp Ala Thr Gly Asn Leu Lys Ser
 370 375 380
 Thr Gly Ser Ala Asn Tyr Val Trp Ala Ser Ser Thr Asp Arg Gly Tyr
 385 390 395 400
 Tyr Tyr Thr Trp Tyr Ser Thr Tyr Thr Gly Asn Thr Asn Ile Asn Asn
 405 410 415
 Thr Asp Pro Cys Ser Lys Leu Asn Thr Ala Tyr Tyr Gly Thr Gly Trp
 420 425 430
 Arg Thr Pro Ser Lys Asn Glu Leu Thr Lys Leu Ala Arg Cys Thr Asn
 435 440 445
 Lys Ile Leu Thr Asn Ser Gly Met Trp Phe Met Asn Asn Ser Ile Gly
 450 455 460
 Leu Phe Leu Pro Ala Ala Gly Cys Arg Gln Asp Gly Asn Gly Ser Asn
 465 470 475 480
 Thr Ser Pro Thr Thr Asp Ser Gly Thr Asp Gly Tyr Tyr Trp Ser Ser
 485 490 495
 Asp Ile Gly Asn Gly Asn Asn Thr Gly Lys Arg Leu Tyr Phe Gly Lys
 500 505 510
 Arg Tyr Asn Thr Ala Asp Val Ala Asp His Ala Lys Asn Ala Gly Leu
 515 520 525
 Thr Val Arg Cys Val Lys Gly Thr Lys Gln
 530 535

<210> 9343

<211> 253

<212> PRT

<213> B.fragilis

<400> 9343

Ile Met Lys Thr Glu Leu Lys Gly Trp Leu Ala Asp Asn Thr Val Thr
 1 5 10 15
 Thr Asp Asn Lys Glu Asp Lys Ile Leu Val Leu Glu Ser Ala Gly Asn
 20 25 30
 Leu Thr Leu Ser Asp Val Leu Asp Glu Met Lys Lys Glu Asp Thr Gly
 35 40 45

Leu Arg Ala Glu Thr Leu Lys His Ala Val Asp Leu Phe Gln Arg Thr
 50 55 60
 Val Ser Glu Leu Val Leu Asn Gly Tyr Ser Val Asn Thr Gly Leu Phe
 65 70 75 80
 Arg Ala Val Pro Gln Phe Arg Gly Val Ile Asp Gly Gly Val Trp Asn
 85 90 95
 Pro Glu Lys Asn Ser Ile Tyr Val Ser Phe Asn Gln Asp Lys Asp Leu
 100 105 110
 Arg Glu Ala Ile Ala Arg Thr Gly Val Lys Ile Leu Gly Val Lys Gly
 115 120 125
 Asp Ser Ala Tyr Phe Ile Gly Gly Glu Asp Ala Ala Thr Arg Ala Thr
 130 135 140
 Asp Gly Ser Ala Thr Ala Gly Arg Asn Tyr Arg Leu Gln Gly Lys Asn
 145 150 155 160
 Ile Lys Val Ala Gly Thr Asp Pro Ala Val Gly Ile Val Leu Ile Asp
 165 170 175
 Glu Lys Gly Thr Glu Thr Lys Leu Pro Met Asp Met Ile Ala Val Asn
 180 185 190
 Asn Pro Ser Glu Val Leu Val Leu Leu Pro Ala Asp Leu Thr Asp Gly
 195 200 205
 Ile Tyr Lys Leu Arg Leu Thr Thr Gln Tyr Thr Ser Gly Asn Arg Gln
 210 215 220
 Leu Lys Thr Pro His Val Ile Ser Gln Thr Ile Val Ile Gly Asn Thr
 225 230 235 240
 Thr Glu Gly Asp Gly Asp Ile Val Asp Asp Pro Thr Ala
 245 250

<210> 9344

<211> 86

<212> PRT

<213> B.fragilis

<400> 9344

Cys Asn Lys Asp Lys Met Leu Phe Leu Leu Val Gln Ile Phe Ser His
 1 5 10 15
 Arg Phe Asn Tyr Gln Ser Phe Ile Tyr Ser Leu Cys Ile Leu Tyr Arg
 20 25 30
 Glu Gln Glu Ser Cys Phe Lys Arg Arg Thr Ser Phe Glu Thr Pro Pro
 35 40 45
 Val Tyr Ser Arg Gln Leu Tyr Leu Ile Gly Ile His Lys Leu Thr His
 50 55 60
 Asn Lys Ser Cys Ile Lys Gln Ser Leu Pro Thr Tyr Thr Leu Met Tyr
 65 70 75 80
 Lys Ser Gly Lys Arg Phe
 85

<210> 9345

<211> 313

<212> PRT

<213> B.fragilis

<400> 9345

Lys His Phe Met Glu Gln Glu Leu Leu Tyr Lys Tyr Phe Lys Gly Thr
 1 5 10 15
 Thr Ser Glu Glu Glu Arg Leu Ile Leu Asp Trp Val Asp Ala Ser
 20 25 30
 Pro Glu Asn Arg Lys Ala Phe Gln Lys Glu Arg Met Leu Tyr Asp Ile
 35 40 45
 Ala Leu Phe Thr Asp Glu Lys Gln Met Asn Arg Lys Asp Arg Lys Ala

50	55	60
Arg Ile Ile Pro Met Leu Arg Trp Ser Ala Arg	Ile Ala Ala Val Val	
65	70	75
Ile Val Ala Ile Ser Phe Gly Phe Leu Phe Lys Asn Tyr Gln Tyr Glu		80
85	90	95
Lys Ser Ala Cys Gln Gln Thr Ile Thr Val Pro Ala Gly Gln Arg Ala		
100	105	110
Gln Ile Thr Leu Ala Asp Gly Thr Lys Val Trp Leu Asn Ser Lys Ser		
115	120	125
Thr Leu Thr Tyr Ala Ser Asn Phe Gly Arg Lys Glu Arg Asn Val Glu		
130	135	140
Leu Asp Gly Glu Ala Tyr Phe Glu Val Ala Lys Asn Lys Lys Ile Pro		
145	150	155
Phe Phe Val Asn Thr Glu Ile Asn Arg Val Lys Val Val Gly Thr His		
165	170	175
Phe Asn Val Cys Ala Tyr Lys Gly Ser Asn Glu Phe Glu Thr Thr Leu		
180	185	190
Ile Glu Gly Ile Val Asp Ile Tyr Pro Ile Gly Ser Asp Gln Val Ile		
195	200	205
Thr Arg Leu Thr Lys Asp Glu Phe Phe Gly Ser Tyr Asn Gly Lys Tyr		
210	215	220
Lys Lys Thr Thr Leu Pro Ser Tyr Glu Tyr Leu Arg Trp Lys Glu Gly		
225	230	235
Leu Tyr Cys Phe Asp Asp Ala Pro Phe Asn Ser Leu Leu Asn Lys Leu		
245	250	255
Glu Lys Tyr Tyr Asn Val Asn Ile Ser Val Arg Asn Leu Asn Ile Leu		
260	265	270
Asn Tyr Arg Cys Thr Gly Lys Phe Lys Glu Gln Asp Gly Ile Glu His		
275	280	285
Ile Leu Lys Val Ile Gln Lys Asp His Lys Phe Thr Tyr Ser Ile Asn		
290	295	300
Glu Glu Lys Asp Ser Ile Ile Glu		
305	310	

<210> 9346

<211> 374

<212> PRT

<213> B.fragilis

<400> 9346

Thr Lys Asn Met Asp Lys Leu Asn Ile Asn Ser Thr Pro Ser Ser Val		
1	5	10
Lys Asn Gly Arg Gly Glu Arg Leu Leu Val Ile Asn Pro Gly Ser Thr		
20	25	30
Ser Thr Lys Ile Ala Val Tyr Glu Asn Glu Thr Pro Leu Leu Val Arg		
35	40	45
Asn Ile Arg His Thr Val Glu Glu Leu Ser Ala Phe Pro Arg Val Ile		
50	55	60
Asp Gln Phe Glu Phe Arg Lys Ser Leu Val Leu Arg Glu Leu Glu Val		
65	70	75
Asn Asp Ile Pro Phe Arg Phe Asp Ala Val Ile Gly Arg Gly Gly Leu		
85	90	95
Val Lys Pro Ile Pro Gly Gly Val Tyr Glu Val Asn Glu Ala Met Lys		
100	105	110
Arg Asp Thr Leu His Ala Met Arg Thr His Ala Cys Asn Leu Gly Gly		
115	120	125
Leu Ile Ala Asp Glu Leu Ala Ala Ala Leu Pro Gly Cys Arg Ala Phe		
130	135	140
Ile Ala Asp Pro Gly Val Val Asp Glu Leu Glu Glu Val Ala Arg Ile		

145	150	155	160
Thr Gly Ser Pro Leu Met Pro Arg Ile Thr Ile Trp His Ala Leu Asn			
165	170	175	
Gln Lys Ala Ile Ala Arg Arg Tyr Ala Ala Glu His Gly Thr Arg Tyr			
180	185	190	
Glu Asp Leu Asp Leu Ile Val Cys His Leu Gly Gly Ile Ser Val			
195	200	205	
Ala Val His Arg His Gly Arg Ala Val Asp Ala Asn Asn Ala Leu Asp			
210	215	220	
Gly Glu Gly Pro Phe Ser Pro Glu Arg Ala Gly Thr Leu Pro Ala Gly			
225	230	235	240
Gln Leu Ile Asp Leu Cys Phe Ser Gly Lys Phe Thr Lys Asp Glu Leu			
245	250	255	
Lys Lys Arg Ile Ser Gly Arg Ala Gly Leu Thr Ala His Leu Gly Thr			
260	265	270	
Thr Asp Ile Pro Ala Ile Ile Gln Ser Ile Glu Ala Gly Asp Asp His			
275	280	285	
Ala Arg Leu Val Leu Asp Ala Met Ile Tyr Asn Val Ala Lys Ser Ile			
290	295	300	
Gly Ala Ala Ser Thr Val Leu Cys Gly Lys Val Asp Ala Ile Leu Leu			
305	310	315	320
Thr Gly Gly Ile Ala Tyr Ser Asp Tyr Val Ile Ser Arg Leu Arg Glu			
325	330	335	
Arg Ile Ser Phe Leu Ala Pro Val Phe Val Tyr Pro Gly Glu Asp Glu			
340	345	350	
Met Glu Ala Leu Ala Leu Asn Ala Leu Gly Ala Leu Arg Gly Glu Leu			
355	360	365	
Pro Val Gln Val Tyr Gln			
370			

<210> 9347

<211> 189

<212> PRT

<213> B.fragilis

<400> 9347

Asn Leu Phe Met Pro Ser Asn Asn Ser Leu His Thr Met Asp Leu Phe			
1	5	10	15
Ser Gln Phe Phe Gln Glu Asn Gln Lys Lys Phe Leu Ser Phe Ala Tyr			
20	25	30	
Ser Tyr Thr Arg Asn Lys Ala Ala Ala Glu Asp Ile Leu Met Glu Ala			
35	40	45	
Met Ala Ser Leu Trp Glu Asn Arg Lys Lys Trp Glu Lys Asp Ser Asn			
50	55	60	
Leu His Ala Leu Leu Leu Thr Ile Ile Lys Asn Lys Ser Leu Asn Tyr			
65	70	75	80
Leu Glu His Glu Gln Val Arg Met Lys Ala Glu Glu Val Ile Asn Thr			
85	90	95	
His Lys Gln Arg Glu Leu Asp Leu Arg Ile Ser Thr Leu Glu Ala Cys			
100	105	110	
Glu Pro Ala Thr Ile Phe Asp Thr Glu Ile Gln Arg Ile Val Tyr Lys			
115	120	125	
Thr Leu Glu Gln Leu Pro Glu Gln Ser Arg His Ile Phe Ile Leu Ser			
130	135	140	
Arg Tyr His Asn Thr Pro Asn Lys Lys Ile Ala Glu Gln Leu Gly Ile			
145	150	155	160
Ser Ile Lys Ser Val Glu Phe His Ile Thr Lys Ala Leu Lys Leu Leu			
165	170	175	
Arg Leu Glu Leu Lys Asp Tyr Leu Ile Ser Leu Leu Phe			

180

185

<210> 9348

<211> 542

<212> PRT

<213> B.fragilis

<400> 9348

Lys	Arg	Phe	Ile	Met	Lys	Asn	Asn	Ile	Lys	Tyr	Ile	Ala	Gly	Ile	Leu
1				5					10					15	
Leu	Gly	Gly	Leu	Ile	Gly	Phe	Ser	Ala	Cys	Thr	Asp	Ser	Phe	Glu	Ser
						20			25				30		
Phe	Asn	Thr	Asn	Glu	Ala	Gly	Phe	Asp	Asn	Asp	Ser	Lys	Lys	Gln	Asp
	35						40				45				
Phe	Asn	Tyr	Tyr	Gly	Ile	Pro	Leu	Gly	Ile	Ile	Gln	Gln	Gly	Ile	Tyr
	50						55			60					
Phe	Asn	Tyr	Asp	Trp	Gly	Ser	Gly	Lys	Asn	Trp	Pro	Phe	Gln	Thr	Met
	65					70				75			80		
Gln	Asn	Leu	Gly	Ala	Asp	Leu	Phe	Ser	Gly	Tyr	Val	His	Asp	Phe	Asn
		85						90				95			
Pro	Phe	Asn	Glu	Gly	Lys	Asn	Asn	Ser	Thr	Tyr	Tyr	Met	Met	Asp	Gly
		100						105				110			
Trp	Asn	Gly	Ser	Thr	Trp	Asp	Asn	Thr	Tyr	Gly	Tyr	Ile	Met	Pro	Glu
		115					120				125				
Val	Gln	Lys	Ser	Glu	Thr	Ile	Asn	Glu	Lys	Asp	Asn	Ile	Gly	Phe	Phe
		130					135				140				
Gly	Ile	Thr	Lys	Ile	Leu	Lys	Val	Glu	Leu	Met	His	Arg	Leu	Ser	Asp
	145					150				155			160		
Leu	Tyr	Gly	Pro	Ile	Val	Tyr	Thr	Gln	Phe	Gly	Ser	Lys	Thr	Gly	Ser
		165					170				175				
Thr	Pro	Asp	Thr	Gln	Gln	Glu	Ala	Tyr	Lys	Ala	Phe	Phe	Asn	Asp	Leu
		180					185				190				
Asp	Thr	Gly	Ile	Ala	Lys	Ile	Arg	Glu	Tyr	Gln	Lys	Ala	Asn	Pro	Asp
		195					200				205				
Ile	Glu	Ser	Phe	Ala	Lys	Phe	Asp	Ile	Leu	Met	Pro	Gln	Gly	Lys	Arg
		210					215				220				
Thr	Phe	Ser	Glu	Trp	Ile	Arg	Phe	Ala	Asn	Ser	Leu	Arg	Leu	Arg	Leu
	225					230				235			240		
Ala	Val	Arg	Ile	Ala	Met	Ala	Asp	Ser	Lys	Leu	Ala	Val	Ala	Glu	Ala
		245					250				255				
Gln	Lys	Ala	Leu	Thr	Asp	Glu	Glu	Gly	Leu	Leu	Glu	Gly	Asn	Asp	Glu
		260					265				270				
Val	Val	Ala	Val	Ser	Thr	Ser	Ser	Gly	Tyr	Thr	Asn	Pro	Phe	Gly	Glu
		275					280				285				
Ile	Asn	Lys	Ala	Trp	Gly	Glu	Val	Phe	Met	Asn	Ala	Asn	Met	Glu	Ser
		290					295				300				
Leu	Leu	Val	Gly	Tyr	Glu	Asp	Pro	Arg	Met	Glu	Lys	Tyr	Phe	Asp	Lys
	305				310				315			320			
Ala	Thr	Gly	Ser	Asp	Ala	Thr	Ser	Leu	Ile	Asp	Tyr	Lys	Gly	Thr	Tyr
		325					330				335				
Lys	Gly	Ile	Arg	Gln	Gly	Thr	Gly	Phe	Ser	His	Lys	Asn	Tyr	Asn	Gly
		340					345				350				
His	Ser	Lys	Ser	Thr	Ile	Thr	Gln	Gln	Thr	Asp	Ala	Val	Leu	Met	Thr
		355					360				365				
Pro	Ala	Glu	Val	Trp	Phe	Leu	Arg	Ala	Glu	Ala	Ala	Leu	Arg	Gly	Trp
		370					375				380				
Ser	Ser	Glu	Ser	Val	Lys	Asp	Cys	Tyr	Glu	Lys	Gly	Val	Lys	Ala	Ser
	385				390				395			400			
Phe	Ala	Gln	Trp	Gly	Ala	Ala	Gly	Ala	Glu	Ala	Tyr	Leu	Glu	Ser	Asp

405	410	415
Arg Lys Pro Ser Asp Tyr Val Asp Ala Phe Lys Ala Ala Asn Asn Val		
420	425	430
Lys Ala Val Asn Thr Leu Thr Pro Lys Trp Asp Asp Ala Ala Gly Asn		
435	440	445
Glu Asp Lys Leu Gly Arg Ile Ile Thr Gln Lys Trp Leu Ala Met Phe		
450	455	460
Pro Glu Gly Gly Glu Ala Trp Ala Glu Gln Arg Arg Thr Gly Tyr Pro		
465	470	475
Arg Leu Phe Pro Val Leu Val Asn Gln Ser Glu Gly Thr Val Asp Thr		
485	490	495
Asn Leu Gly Pro Arg Arg Leu Asn Phe Phe Val Gly Ile Lys Thr Thr		
500	505	510
Asn Pro Glu Gln Tyr Thr Gln Leu Val Asn Ala Leu Gly Gly Ile Asp		
515	520	525
Asn Cys Gly Thr Arg Leu Trp Trp Asp Thr Gly Arg Asn Phe		
530	535	540

<210> 9349

<211> 250

<212> PRT

<213> B.fragilis

<400> 9349

Phe Phe Ser Ile Leu Glu Arg Arg Thr Arg Gln Asn Ala Leu Thr Asn		
1	5	10
Leu Glu Lys Lys Tyr Ile Cys Ser Leu Lys Asn Asn Thr Asn Ile Met		
20	25	30
Lys Lys Val Thr Leu Val Ala Leu Val Ala Leu Ala Leu Ser Ser Cys		
35	40	45
Asn Ser Asp Pro Lys Phe Asn Val Lys Gly Asp Val Ser Gly Ala Asp		
50	55	60
Gly Lys Met Leu Tyr Leu Glu Ala Ser Gly Leu Glu Gly Ile Val Pro		
65	70	75
Leu Asp Ser Ile Lys Leu Lys Gly Asp Gly Ser Phe Ser Phe Lys Gln		
85	90	95
Leu Arg Pro Glu Ser Pro Glu Phe Tyr Arg Leu Arg Val Glu Asp Lys		
100	105	110
Val Ile Asn Phe Ser Val Asp Ser Thr Glu Thr Val Ser Ile Gln Ala		
115	120	125
Pro Tyr Thr Asp Phe Ser Thr Ala Tyr Thr Val Glu Gly Ser Glu Asn		
130	135	140
Ser Ala Lys Ile Lys Glu Leu Thr Leu Lys Gln Val Arg Leu Gln Lys		
145	150	155
Asp Val Asp Ala Leu Val Lys Ala Ala Gln Ala His Gln Leu Gly Asn		
165	170	175
Asp Val Phe Glu Asp Ser Leu Ala Val Leu Leu Lys Asn Tyr Lys Asp		
180	185	190
Asp Val Lys Ile Asn Tyr Ile Phe Ala Ala Pro Asn Thr Ala Ser Ala		
195	200	205
Tyr Phe Ala Leu Phe Gln Lys Leu Asn Asn Tyr Met Ile Phe Asp Pro		
210	215	220
Leu Asn Asn Lys Asp Asp Ile Lys Cys Phe Gly Ala Val Ala Thr Ser		
225	230	235
Leu Asn Asn Thr Tyr Pro Gln Val Phe Thr		
245	250	

<210> 9350

<211> 107

<212> PRT
 <213> B.fragilis

<400> 9350

Val	Glu	Ala	Ile	Ser	Ile	Leu	Ser	Ala	Leu	Leu	Ala	Ile	Arg	Phe	Pro
1					5				10				15		
Thr	Val	Ser	Leu	Leu	Lys	Cys	Thr	Val	Ile	Val	Arg	Glu	Leu	Ala	Lys
					20				25			30			
Gly	Thr	Met	Arg	Ile	Val	Val	Val	Trp	Leu	Val	Phe	Gly	Leu	Asn	Glu
		35				40					45				
Ala	Val	Leu	Leu	Val	Leu	Ala	Ala	Thr	Ala	Glu	Leu	Pro	Ile	Thr	His
		50				55				60					
Glu	Val	Glu	Leu	Pro	Pro	Cys	Phe	Thr	Tyr	Thr	Pro	Val	His	Pro	Leu
65					70				75			80			
Met	Val	Leu	Leu	Val	Lys	Pro	Val	Thr	Leu	Met	Leu	Ile	Val	Ser	Leu
		85					90					95			
His	Ser	Phe	Cys	Leu	Asn	Val	Thr	Gly	Arg	Leu					
		100					105								

<210> 9351

<211> 317
 <212> PRT
 <213> B.fragilis

<400> 9351

Lys	Ser	Asn	Val	Met	Glu	Pro	Ile	Arg	Asn	Phe	Asp	Gln	Leu	Thr	Ala
1				5				10			15				
His	Leu	Lys	Thr	Leu	Asn	Arg	Arg	Lys	Arg	Ile	Ala	Val	Val	Cys	Ala
				20				25			30				
Asn	Asp	Pro	Asn	Thr	Glu	Tyr	Ala	Ile	Ala	Arg	Ala	Leu	Asp	Glu	Glu
		35				40				45					
Ile	Ala	Glu	Phe	Leu	Met	Ile	Gly	Asp	Ser	Ala	Ile	Leu	Gln	Lys	Tyr
		50				55				60					
Pro	Ser	Leu	Gln	Lys	Tyr	Pro	Glu	Tyr	Val	Lys	Thr	Leu	His	Ile	Glu
65				70			75			80					
Asp	Pro	Asp	Glu	Ala	Ala	Arg	Glu	Ala	Val	Arg	Ile	Val	Arg	Glu	Gly
		85				90				95					
Gly	Ala	Asp	Ile	Leu	Met	Lys	Gly	Ile	Ile	Asn	Thr	Asp	Asn	Leu	Leu
		100				105				110					
His	Ala	Ile	Leu	Asp	Lys	Glu	Lys	Gly	Leu	Leu	Pro	Lys	Gly	Lys	Ile
		115				120				125					
Leu	Thr	His	Leu	Ala	Val	Met	Gln	Ile	Pro	Thr	Tyr	Asp	Lys	Leu	Leu
		130				135				140					
Phe	Phe	Ser	Asp	Ala	Ala	Val	Ile	Pro	Arg	Pro	Thr	Leu	Gln	Gln	Arg
145					150				155			160			
Ile	Glu	Met	Ile	Trp	Tyr	Ala	Ile	Cys	Thr	Cys	Arg	Arg	Phe	Gly	Ile
					165			170			175				
Glu	Gln	Pro	Arg	Ile	Ser	Leu	Ile	His	Cys	Thr	Glu	Lys	Val	Ser	Ala
					180			185			190				
Lys	Phe	Pro	His	Ser	Leu	Asp	Tyr	Val	Asn	Ile	Val	Glu	Leu	Ala	Glu
					195			200			205				
Ala	Gly	Glu	Phe	Gly	Asn	Val	Ile	Ile	Asp	Gly	Pro	Leu	Asp	Val	Arg
		210				215				220					
Thr	Ser	Cys	Glu	Gln	Ala	Ser	Gly	Asp	Ile	Lys	Gly	Ile	Val	Ser	Pro
225						230				235			240		
Ile	Asn	Gly	Gln	Ala	Asp	Val	Leu	Ile	Phe	Pro	Asn	Ile	Glu	Ser	Gly
						245			250			255			
Asn	Ala	Phe	Tyr	Lys	Ser	Val	Ser	Leu	Phe	Ala	Lys	Ala	Asp	Met	Ala
						260			265			270			

Gly Leu Leu Gln Gly Pro Ile Cys Pro Val Val Leu Pro Ser Arg Ser
 275 280 285
 Asp Ser Gly Leu Ser Lys Tyr Tyr Ser Ile Ala Met Ala Cys Leu Thr
 290 295 300
 Ala Ser Thr Arg Ser Ala Glu Arg Gly Arg Cys Ser Glu
 305 310 315

<210> 9352

<211> 548

<212> PRT

<213> B.fragilis

<220>

<221> UNSURE

<222> (118)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 9352

Ser Asp Tyr Ser Leu Asn Lys Phe Arg Met Asn Lys Leu Leu Ile Met
 1 5 10 15
 Arg Thr His Leu Leu Trp Ile Gly Val Met Thr Ala Ser Ser Leu Trp
 20 25 30
 Leu Ser Gly Cys Thr Gln Glu Glu Lys Tyr Pro Phe Phe Pro Glu Lys
 35 40 45
 Gly Tyr Asp Ser Gly Thr Val Ile Pro Ile Lys Ile Ser Met Ala Glu
 50 55 60
 Asn Gly Glu Tyr Asp Ser Tyr Thr Pro Glu Asn Asp Met Ala Pro Arg
 65 70 75 80
 Tyr Asn Ala Pro Leu Ile Ala Glu Trp Ala Gly Val Gln Thr Leu Ser
 85 90 95
 Arg Thr Arg Thr Lys Glu Ser Pro Glu Tyr Asn Gly Pro Arg Ile Ala
 100 105 110
 Ser Met Glu Leu Thr Xaa Asn Thr Pro Ser Thr Leu Thr Thr Arg Ala
 115 120 125
 Asn Thr Leu Ser Thr Gly Val Tyr Phe Arg Leu Ile Val Phe Arg Lys
 130 135 140
 Ser Gly Asn Asn Tyr Val Phe Gln Ser Ala Ala Asp Tyr Thr Ser Asn
 145 150 155 160
 Gly Ala Ser Ser Pro Val Leu Lys Lys Gly Lys Leu Leu Thr Arg Ser
 165 170 175
 Gly Thr Ile Arg Val Ile Gly Tyr Ser Phe Asn Thr Thr Ala Ala Leu
 180 185 190
 Gly Asp Ile Pro Ala Ser Tyr Thr Tyr Asn Thr Thr Lys Ile Asp Ile
 195 200 205
 Pro Asn Met Asn Asn Asp Phe Met Thr Tyr Asp Ser Gly Asp Ile Ala
 210 215 220
 Asn Val Asn Ser Leu Asn Tyr Asn Leu Pro Val Thr Phe Lys Gln Lys
 225 230 235 240
 Leu Cys Lys Leu Thr Ile Ser Ile Ser Val Thr Gly Phe Thr Ser Asn
 245 250 255
 Thr Ile Ser Gly Cys Thr Gly Val Tyr Val Lys Gln Gly Gly Asn Ser
 260 265 270
 Thr Ser Trp Val Ile Gly Ser Ser Ala Val Ala Ala Asn Thr Ser Asn
 275 280 285
 Thr Ala Ser Phe Asn Pro Asn Thr Asn Gln Thr Thr Ile Arg Met
 290 295 300
 Val Pro Phe Ala Ser Ser Arg Thr Ile Thr Val His Phe Asn Lys Leu
 305 310 315 320
 Thr Val Gly Asn Leu Ile Ala Asn Asn Ala Asp Asn Ile Asp Ile Ala

325	330	335	
Ser Thr Gln Ser Val Gln Leu Lys	Glu Gly Met Ser Tyr Thr	Met Lys	
340	345	350	
Ile Gln Phe Lys Arg Ser Pro Gly	Ile Asn Val Pro Ala Gly Ser Ile		
355	360	365	
Asn Leu Ser Asn Pro Lys Lys	Ala Cys Thr Asn Asp Asp Lys Gln Lys		
370	375	380	
Leu Ser Lys Leu Val Phe Ala Asp Gly	Asn Leu Lys Ser Thr Gly Ala		
385	390	395	400
Ser Asn Asn Tyr Val Trp Ala Thr Asn Lys	Glu Tyr Gly Tyr Tyr Tyr		
405	410	415	
Gln Trp Lys Lys Asp Tyr Asn Gly	Asn Asn Ile Asp Pro Cys Ala Arg		
420	425	430	
Leu Asn Pro Thr Thr Tyr Gly Ser Gly	Trp Arg Leu Pro Thr Arg Asn		
435	440	445	
Glu Leu Glu Arg Leu Gly Arg Cys Asn Asn Val	Lys Lys Val Ser Asn		
450	455	460	
Gly Val Asn Gly Leu Trp Phe Leu Asn Ala	Thr Thr Gly Ile Phe Leu		
465	470	475	480
Pro Leu Gly Gly Trp Arg Asn Asn Asn	Ser Gly Thr Thr Ala Glu Asp		
485	490	495	
Trp Pro Gly Thr Phe Gly Gln Tyr Phe Thr Asp Glu Ser Ile Asn Thr			
500	505	510	
Asn Asp Cys Tyr Arg Leu Asp Ile Ser Pro Gly Glu Gly Lys Thr Asp			
515	520	525	
Val Asn Ser Thr Gln Lys Lys Met Ala Tyr Thr Thr Arg Cys Val Lys			
530	535	540	
Gly Pro Lys Leu			
545			

<210> 9353

<211> 88

<212> PRT

<213> B.fragilis

<400> 9353

Thr Leu Asp Ala Asn Ser Tyr Ser Ala Trp Arg Ile Gly Gly Arg Leu			
1	5	10	15
Ser Phe Lys Asn Glu Thr Leu Ala Met Ile Leu Pro Arg Leu Glu Lys			
20	25	30	
Trp Tyr Gly Gln Lys Ile Asp Cys Pro Gln Lys Thr Ala Asp His Tyr			
35	40	45	
Arg Phe Thr Phe Thr Leu Arg Asn Glu Pro Leu Asp Leu Ile Leu Asn			
50	55	60	
Ile Met Ser His Ser Ala Pro Leu Asn Tyr Lys Leu Ile Ser Asn Asp			
65	70	75	80
Tyr Tyr Val Leu Glu Glu Leu Lys			
85			

<210> 9354

<211> 388

<212> PRT

<213> B.fragilis

<400> 9354

Leu Ile Val Phe Met Arg Lys Cys Asn Met Arg Trp Phe Ser Pro Gln			
1	5	10	15
Arg Met Lys Lys His Leu Ala Phe Ala Leu Ala Val Ser Leu Val Ala			
20	25	30	

Met Val Pro Val Ser Ala Phe Ala Gln Val Leu Lys Ile Ser Met Thr
 35 40 45
 Lys Thr Asn Val Ser Ile Glu Asn Val Leu Arg Glu Leu Glu Lys Gln
 50 55 60
 Ser Asp Tyr Thr Phe Phe Tyr Asn Asp Ile Gln Val Lys Leu Asn Lys
 65 70 75 80
 Lys Val Ser Ile Asn Val Ser Asp Ala Pro Ile Glu Thr Val Leu Asn
 85 90 95
 Glu Val Phe Lys Asn Ser Gly Tyr Thr Tyr Lys Ile Val Asp Asn Gln
 100 105 110
 Ile Val Val Ser Thr Ala Ala Ala Ala Lys Glu Val Gln Ala Thr
 115 120 125
 Gln Gln Gln Lys Gln Arg Lys Ile Ser Gly Val Val Lys Asp Ala Met
 130 135 140
 Gly Glu Ala Ile Ile Gly Ala Ser Val Ile Glu Lys Gly Asn Pro Thr
 145 150 155 160
 Asn Gly Thr Ile Thr Asn Ile Asp Gly Glu Phe Thr Leu Asn Thr Ala
 165 170 175
 Gly Lys Glu Leu Gln Val Thr Tyr Ile Gly Tyr Ile Pro Gln Ala Ile
 180 185 190
 Val Leu Lys Pro Gly Val Asn Ser Tyr Thr Val Thr Met Lys Glu Asp
 195 200 205
 Thr Lys Thr Leu Asp Glu Val Val Val Val Gly Tyr Gly Thr Gln Lys
 210 215 220
 Lys Val Asn Leu Thr Gly Ala Val Ser Ser Val Gly Ala Asp Glu Leu
 225 230 235 240
 Lys Glu Arg Val Asn Thr Asp Val Leu Ala Ser Val Gln Gly Gln Val
 245 250 255
 Pro Gly Val Thr Ile Ile Ser Gly Pro Gly Ser Thr Pro Ser Ile Asn
 260 265 270
 Met Arg Gly Arg Gly Asn Leu Gly Thr Ser Ser Pro Leu Phe Val Ile
 275 280 285
 Asp Gly Ala Ile Ala Asp Ala Ser Phe Phe Ser Ser Leu Asp Pro Asn
 290 295 300
 Ser Ile Glu Ser Ile Ser Phe Leu Lys Asp Ala Ala Ser Ser Ala Ile
 305 310 315 320
 Tyr Gly Ser Arg Ala Ala Tyr Gly Val Val Leu Val Lys Thr Lys Gly
 325 330 335
 Gly Lys Glu Gly Asp Leu Lys Ile Ser Tyr Asp Gly Ser Val Ala Val
 340 345 350
 Lys Met Ala Thr Tyr Thr Pro Asp Val Leu Gly Ser Glu Trp Tyr Ala
 355 360 365
 Arg Leu Ser Asn Glu Ala Ala Val Phe Thr Ala Glu Cys Gln Thr Thr
 370 375 380
 Leu Tyr Cys Pro
 385

<210> 9355

<211> 71

<212> PRT

<213> B.fragilis

<400> 9355

Ile Leu Phe Leu Val Cys Phe Pro Lys Phe Arg Met Asn Leu Ala Phe
 1 5 10 15
 Tyr Phe Ile His Tyr Phe Gln Lys Tyr Arg Val Leu Leu Lys Phe Phe
 20 25 30
 Glu Asn Tyr Gly Val Phe Ser Leu Leu Leu Phe Leu Phe Leu Asp Ser
 35 40 45

Thr Tyr Ile Leu Ile Ile Leu Tyr Phe Leu Ser Phe Cys Ile Phe Tyr
 50 55 60
 Pro Ile Cys Ile Ala Cys Phe
 65 70

<210> 9356

<211> 62

<212> PRT

<213> B.fragilis

<400> 9356

His Arg Ala Lys Met Lys Phe Lys Ser Pro Pro Leu Lys Ser Tyr Leu
 1 5 10 15
 Leu Pro Leu Ile Asp Tyr Asn Ser Thr Ile Ile Asn Ile Ile Asn Ser
 20 25 30
 Tyr Tyr Lys His His Ile Ala Ser Arg Phe Arg Ile Tyr Val Ala Asn
 35 40 45
 Lys Ser Tyr Thr Thr Arg Phe Val Cys His Lys Leu Phe Tyr
 50 55 60

<210> 9357

<211> 79

<212> PRT

<213> B.fragilis

<400> 9357

Gly Thr His Thr Met Arg Leu Ser Glu Leu Lys Thr Gly Glu Lys Gly
 1 5 10 15
 Val Ile Val Lys Val Leu Val His Gly Gly Phe Arg Asp Arg Ile Val
 20 25 30
 Glu Met Gly Phe Ile Lys Gly Lys Pro Val Gly Val Leu Leu Asn Ala
 35 40 45
 Pro Leu Thr Asp Arg Ile Ser Tyr Ala Ile Met Gly Tyr Val Ile Ser
 50 55 60
 Leu Arg Arg Gln Glu Ala Asp Met Ile Glu Ile Ile Ser Glu Gln
 65 70 75

<210> 9358

<211> 790

<212> PRT

<213> B.fragilis

<400> 9358

Ser Cys Gln Thr Lys His Arg Ile Arg Lys Leu Met Asn Gln Ile Leu
 1 5 10 15
 Lys Pro His Asn Leu Pro Pro Ser Phe Gln Gly Arg Gly Trp Lys Ile
 20 25 30
 Ser Ile Lys Ser Trp Trp Lys Pro Ala Leu Phe Leu Leu Val Leu
 35 40 45
 Tyr Ile Phe Cys Leu Pro Ser Gln Leu Phe Thr Ser Pro Tyr Ser Thr
 50 55 60
 Val Val Thr Asp Arg Asn Gly Glu Leu Leu Gly Ala Arg Ile Ala Thr
 65 70 75 80
 Asp Gly Gln Trp Arg Phe Pro Pro Arg Glu Asn Ile Pro Glu Lys Val
 85 90 95
 Ala Thr Cys Leu Ile Glu Phe Glu Asp Arg Gln Phe Tyr His His Trp
 100 105 110
 Gly Val Asn Pro Leu Ala Ile Gly Arg Ala Val Val Gln Asn Leu Lys
 115 120 125

His Lys Arg Ile Val Ser Gly Gly Ser Thr Leu Thr Met Gln Thr Ile
 130 135 140
 Arg Leu Ala Arg Asn Lys Pro Arg Thr Phe Lys Glu Lys Leu Ile Glu
 145 150 155 160
 Met Val Trp Ala Thr Arg Leu Glu Phe Arg Lys Ser Lys Lys Glu Ile
 165 170 175
 Leu Ser Leu Tyr Ile Ser His Ala Pro Phe Gly Gly Asn Val Val Gly
 180 185 190
 Leu Asp Ala Ala Ala Trp Arg Tyr Phe Gly His Ser Ala Glu Glu Leu
 195 200 205
 Ser Trp Ala Glu Ser Ala Met Leu Ala Val Leu Pro Asn Ser Pro Ala
 210 215 220
 Met Ile His Leu Ser Lys Ser Arg Gln Ala Leu Leu Asp Lys Arg Asn
 225 230 235 240
 Arg Leu Leu Thr His Leu His Lys Lys Gly Ile Leu Asp Thr Ser Thr
 245 250 255
 Tyr Glu Leu Ala Ile Ser Glu Pro Leu Pro Gln Glu Pro Leu Pro Leu
 260 265 270
 Pro His Ile Ala Pro His Leu Thr Asp Tyr Phe Tyr Gln Thr Arg Asn
 275 280 285
 Gly Lys Tyr Ser Val Ser Thr Ile Asp Arg Gly Ile Gln Thr Gln Ile
 290 295 300
 Glu Ser Leu Val Glu Arg Trp Asn Ser Glu Phe Lys Arg Ser Asp Ile
 305 310 315 320
 Arg Asn Leu Ala Ile Leu Val Ile Asp Ile Arg Thr Asn Gln Ala Ile
 325 330 335
 Ala Tyr Cys Gly Asn Val His Phe Asp Lys Glu Gln Ser Gly Asn Gln
 340 345 350
 Val Asp Val Ile Arg Ser Pro Arg Ser Thr Gly Ser Ile Leu Lys Pro
 355 360 365
 Phe Leu Tyr Tyr Ala Met Leu Gln Glu Gly Glu Ile Leu Pro Asn Thr
 370 375 380
 Leu Leu Pro Asp Ile Pro Val Asn Ile Asn Gly Phe Thr Pro Gln Asn
 385 390 395 400
 Phe Asn Leu Gln Phe Glu Gly Ala Val Pro Ala Ser Glu Ala Ile Ala
 405 410 415
 Arg Ser Leu Asn Ile Pro Ser Val Thr Met Leu Gln Arg Tyr Gly Val
 420 425 430
 Pro Lys Phe His Ser Phe Leu Lys Gln Ile Gly Leu Thr Thr Leu Asn
 435 440 445
 Arg Pro Ser Ser His Tyr Gly Leu Ser Leu Ile Leu Gly Gly Ala Glu
 450 455 460
 Ala Thr Leu Trp Asp Ile Thr Ser Ala Tyr Ala Asn Met Gly Arg Ser
 465 470 475 480
 Leu Asn Arg Leu Pro Gln Phe Pro Cys Thr Leu Leu Leu Ser Asp Ser
 485 490 495
 Ile Ser Val His Arg Pro Ser Phe Gln Ser Gly Ala Val Trp Gln Thr
 500 505 510
 Phe Asp Ala Ile Lys Glu Val Asn Arg Pro Glu Glu Ile Asp Trp Arg
 515 520 525
 Thr Ile Pro Ser Met Gln Thr Ile Ala Trp Lys Thr Gly Thr Ser Tyr
 530 535 540
 Gly Phe Arg Asp Ala Trp Ala Val Gly Val Thr Pro Lys Tyr Ala Val
 545 550 555 560
 Gly Val Trp Val Gly Asn Ala Thr Gly Glu Gly Lys Pro Gly Leu Val
 565 570 575
 Gly Ala Arg Thr Ala Gly Pro Val Leu Phe Asp Val Phe Asn Leu Leu
 580 585 590
 Pro Ser Ser Pro Trp Phe Glu Arg Pro Gln Gly Glu Leu Val Glu Ala

595	600	605
Glu Ile Cys Arg Gln Ser Gly His Leu Lys Gly Arg Phe Cys Glu Glu		
610	615	620
Thr Asp Thr Leu Leu Ile Leu Pro Ala Gly Leu Lys Thr Glu Ala Cys		
625	630	635
Pro Tyr His His Pro Val Thr Leu Ser Ala Asn Glu Arg Phe Arg Ile		
645	650	655
Tyr Glu Asn Cys Ala Asn Ser Glu Pro Val Val Arg Arg Asn Trp Phe		
660	665	670
Thr Leu Pro Pro Val Trp Glu Trp Tyr Tyr Lys Gln His His Pro Glu		
675	680	685
Tyr Arg Pro Leu Pro Pro Phe Lys Ser Gly Cys Gly Glu Asp Arg Phe		
690	695	700
Gln Pro Met Gln Phe Ile Tyr Pro Pro Met Gly Ala Arg Ile His Leu		
705	710	715
Pro Lys Gln Met Asp Gly Ser Lys Gly Gln Leu Thr Val Glu Leu Val		
725	730	735
His Ser His Pro Asn Thr Thr Ile Tyr Trp His Leu Asp Glu Thr Tyr		
740	745	750
Leu Thr Gln Thr Gln Asp Phe His Lys Leu Ser Leu Arg Pro Ser Pro		
755	760	765
Gly Lys His Ser Leu Thr Ala Val Asp Asp Glu Gly Asn Thr Ile Ser		
770	775	780
Thr Thr Phe Phe Val Glu		
785	790	

<210> 9359

<211> 442

<212> PRT

<213> B.fragilis

<400> 9359

Gln Asn Tyr Tyr Leu Cys Asn Met Ile Gln Asn Arg Val Ala Gln Tyr		
1	5	10
Ile Glu Lys Glu Lys Leu Phe Cys Leu Asn Asp Lys Val Leu Val Thr		
20	25	30
Leu Ser Gly Gly Ala Asp Ser Val Ala Leu Leu Arg Leu Leu Leu Ser		
35	40	45
Met Gly Tyr Thr Cys Glu Ala Ala His Cys Asn Phe His Leu Arg Asp		
50	55	60
Lys Glu Ser Asp Arg Asp Glu Ala Phe Val Arg Arg Leu Cys His Glu		
65	70	75
Ser Gly Val Leu Leu His Ile Glu His Phe Asp Thr Thr Gln Tyr Ala		
85	90	95
Ala Lys Lys His Ile Ser Ile Glu Met Ala Ala Arg Glu Leu Arg Tyr		
100	105	110
Glu Trp Phe Glu Thr Leu Arg Lys Gln Arg Glu Ala Ser Val Ile Ala		
115	120	125
Thr Ala His His Lys Asp Asp Ser Val Glu Thr Val Leu Leu Asn Leu		
130	135	140
Ile Arg Gly Thr Gly Ile Asn Gly Leu Leu Gly Ile Arg Pro Arg Asn		
145	150	155
Gly Asn Ile Val Arg Pro Leu Leu Cys Leu Ser Arg Glu Glu Ile Ile		
165	170	175
Ala Tyr Leu Gln Tyr Ile Asp Gln Asp Tyr Val Thr Asp Ser Thr Asn		
180	185	190
Leu Leu Asp Glu Tyr Thr Arg Asn Lys Ile Arg Leu Asn Leu Leu Pro		
195	200	205
Leu Met Lys Glu Ile Asn Pro Ser Val Lys Glu Ser Ile Ile Arg Thr		

210	215	220
Thr Asn Tyr Leu Asn Asp	Ala Ala Thr Leu Tyr	Asn Gln Ser Ile Gly
225	230	235
Glu Ala Arg Lys Arg Ile	Leu Thr Pro Glu	Gly Ile Arg Ile Glu Ala
245	250	255
Leu Leu Gln Glu Pro Val	Pro Glu Ala Ile	Leu Phe Glu Val Leu His
260	265	270
Pro Leu Gly Phe Asn Thr	Thr Gln Ile Asp Asn	Ile Arg Gln Thr Leu
275	280	285
Asp Gly Gln Pro Gly Lys Val	Phe Leu Gly Lys Gly	Trp Arg Val Ile
290	295	300
Lys Asp Arg Asp Leu	Leu Leu Ile Glu Glu Asp	Thr Thr Ala Glu Glu
305	310	315
Ser Gln Pro Pro Phe Arg	Leu Val Met Glu	Glu Tyr Asp Tyr Thr Ser
325	330	335
Glu Phe Ile Ile Pro Lys Asp	Lys Asn Thr Ala Cys	Phe Asp Ala Asp
340	345	350
Lys Ile Asn Lys Thr Trp	Glu Ile Arg Lys Trp	Lys Pro Gly Asp Val
355	360	365
Phe Ile Pro Phe Gly Met	Thr Gly Lys Lys His	Val Ser Asp Tyr Leu
370	375	380
Thr Asp Lys Lys Phe Ser	Leu Ser Glu Lys	Glu Lys Gln Trp Val Leu
385	390	395
Cys Phe Gly Glu Gln Ile	Ala Trp Leu Ile	Gly Glu Arg Thr Asp Asn
405	410	415
Arg Phe Lys Val Asn Glu Asn	Thr Lys Arg Val	Ile Ile Val Arg Ile
420	425	430
Val Ser Glu His Ser Asp Phe	Ile Glu Glu	
435	440	

<210> 9360

<211> 182

<212> PRT

<213> B.fragilis

<400> 9360

Leu Arg Cys Lys Ser His	Lys Cys Thr Phe Ala Thr	Glu Phe Phe
1	5	10
Tyr Gly Gln Ile Met Arg	Glu Tyr Ile Ile Ala Asp	Asn Gln Asp Ile
20	25	30
Thr Lys Ala Gly Met Met	Phe Leu Leu Ser Lys	Gln Lys Glu Val Ser
35	40	45
Leu Leu Leu Glu Ala Asp	Asn Lys Met Glu Leu	Val Gln Leu Leu Arg
50	55	60
Ile His Pro Gln Ala Val	Val Ile Leu Asp	Tyr Thr Leu Phe Asp Phe
65	70	75
Ser Gly Ala Asp Glu Leu	Ile Ile Leu Gln	Glu Arg Phe Lys Glu Ser
85	90	95
Asp Trp Leu Leu Phe Ser	Asp Glu Leu Ser	Ile Gly Phe Leu Arg Gln
100	105	110
Val Leu Phe Ser Ser Asn	Ala Phe Gly Val	Val Leu Lys Asp Asn Ser
115	120	125
Asn Lys Glu Ile Met Thr	Ala Leu His Cys	Ala Ser Arg Lys Glu Arg
130	135	140
Ser Ile Cys Asn Asp Val	Ser Asn Pro Ala	Leu Cys Gly Ser Gly Lys
145	150	155
Leu Thr Thr Cys Leu Gly	Arg Ala His Val	Leu Tyr Arg Met Asn Thr
165	170	175
Arg Leu Leu His Thr Arg		

<210> 9361

<211> 350

<212> PRT

<213> B.fragilis

<400> 9361

Thr	Pro	Tyr	Arg	Gln	Leu	Pro	Arg	Ile	Ser	Glu	Arg	Leu	Lys	Ser	Thr
1				5					10				15		
Gly	Ser	Gln	Lys	Lys	Gly	Ala	Leu	Pro	Ile	Leu	Asn	Val	Ala	Lys	Glu
				20					25				30		
Leu	Leu	Asn	Ile	Pro	Thr	Gln	Leu	His	Glu	Ile	Asn	Asp	Ile	Cys	Ala
				35					40			45			
Ile	Tyr	Cys	Ile	Phe	Ala	Lys	Leu	Lys	Val	Met	Lys	Met	Asp	Leu	Lys
				50					55			60			
Lys	Glu	Val	Lys	Glu	Glu	Phe	Ile	Arg	Phe	Gln	Arg	Asn	Glu	Lys	Thr
				65					70			75			80
Glu	Ser	Ile	Val	Tyr	Glu	Arg	Val	Pro	Phe	Ile	Glu	Lys	Asp	Glu	Ser
				85					90			95			
Thr	Arg	Lys	Val	Leu	Arg	Leu	Ile	Ser	Ala	Glu	Glu	Lys	Ala	His	Tyr
				100					105			110			
Ala	Thr	Leu	Lys	Lys	Tyr	Thr	Glu	Thr	Asp	Val	Ala	Pro	Asp	Lys	Leu
				115					120			125			
Gly	Ile	Ala	Lys	Tyr	Tyr	Trp	Leu	Ala	Arg	Ile	Leu	Gly	Ile	Thr	Phe
				130					135			140			
Ala	Ile	Lys	Leu	Met	Glu	Ser	Ser	Glu	Glu	Asn	Ala	His	His	Asp	Tyr
				145					150			155			160
Ala	Lys	Tyr	Thr	Asp	Tyr	Pro	Asp	Leu	Arg	Gln	Leu	Ala	Asn	Glu	Glu
				165					170			175			
Glu	Val	His	Glu	Gln	Lys	Leu	Ile	Gly	Leu	Ile	Asn	Glu	Ala	Arg	Leu
				180					185			190			
Glu	Tyr	Met	Gly	Ser	Val	Val	Leu	Gly	Leu	Asn	Asp	Ala	Leu	Val	Glu
				195					200			205			
Phe	Thr	Gly	Ala	Leu	Ala	Gly	Phe	Thr	Leu	Ala	Leu	Ser	Asp	Ser	Arg
				210					215			220			
Leu	Ile	Ala	Leu	Thr	Gly	Ser	Ile	Thr	Gly	Ile	Ala	Ala	Ala	Leu	Ser
				225					230			235			240
Met	Ala	Ser	Ser	Glu	Tyr	Leu	Ser	Thr	Lys	Ser	Glu	Gly	Gly	Glu	Thr
				245					250			255			
Lys	His	Pro	Ile	Lys	Ala	Ala	Ile	Tyr	Thr	Gly	Ile	Ala	Tyr	Ile	Ile
				260					265			270			
Thr	Val	Val	Ala	Leu	Val	Ala	Pro	Phe	Ile	Leu	Ile	Glu	Asn	Val	Leu
				275					280			285			
Ile	Ala	Leu	Gly	Val	Met	Leu	Ala	Met	Ala	Leu	Val	Ile	Ile	Ala	Leu
				290					295			300			
Phe	Asn	Tyr	Tyr	Tyr	Ser	Val	Ala	Arg	Gly	Glu	Ser	Phe	Arg	Lys	Arg
				305					310			315			320
Phe	Thr	Glu	Met	Ala	Val	Leu	Ser	Phe	Ser	Val	Ala	Gly	Ile	Ser	Phe
				325					330			335			
Leu	Ile	Gly	Tyr	Ala	Leu	Lys	Thr	Phe	Thr	Gly	Ile	Asp	Ala		
				340					345			350			

<210> 9362

<211> 93

<212> PRT

<213> B.fragilis

<400> 9362

Tyr Ile Ser Arg Gln Pro Asn Ser Ser Pro Ile Asn Pro Leu Thr Thr
 1 5 10 15
 Arg Glu Ala Lys Met Pro Val Ser Ser Pro Asp Thr Thr Ile Pro Thr
 20 25 30
 Phe Leu Pro Leu Phe Ser Gly Arg Glu Asn Trp Glu Ala Ile Gly Met
 35 40 45
 Asn Ile Cys Gly Ile Thr Glu Gln Met Pro Val Arg Ser Glu Ala His
 50 55 60
 Arg Met Thr Trp Met Leu Gly Ala Ile Ala Ile Thr Ser Asn Glu Thr
 65 70 75 80
 Ile Asn Met Glu Lys Leu Val Arg Met Ile Arg Phe Arg
 85 90

<210> 9363

<211> 299

<212> PRT

<213> B.fragilis

<400> 9363

Asp Leu Lys Arg Val Ala Leu Gly Lys Arg Arg Thr Ile Asn Val Ala
 1 5 10 15
 Leu Val Gly Asn Pro Tyr Cys Gly Lys Thr Ser Leu Phe Asn Leu Ala
 20 25 30
 Ser Gly Ala His Glu His Val Gly Asn Tyr Ser Gly Val Thr Val Asp
 35 40 45
 Ala Lys Glu Gly Tyr Phe Asp Phe Gln Gly Tyr His Phe Lys Ile Val
 50 55 60
 Asp Leu Pro Gly Thr Tyr Ser Leu Ser Ala Tyr Thr Pro Glu Glu Ile
 65 70 75 80
 Tyr Val Arg Arg His Ile Ile Asp Glu Thr Pro Asp Val Ile Ile Asn
 85 90 95
 Val Val Asp Ser Ser Asn Leu Glu Arg Asn Leu Tyr Leu Thr Thr Gln
 100 105 110
 Leu Ile Asp Met Asn Val Arg Met Val Val Ala Leu Asn Met Tyr Asp
 115 120 125
 Glu Leu Glu Ala Ser Gly Asn Thr Leu Asp Tyr Leu Leu Leu Gly Lys
 130 135 140
 Leu Phe Gly Val Pro Met Val Pro Thr Val Cys Lys Arg Asn Ile Gly
 145 150 155 160
 Val Asp Arg Leu Phe His Val Val Ile Asn Leu Tyr Glu Gly Ala Asp
 165 170 175
 Phe Ile Asp Lys Lys Gly His Ile His Pro Glu Val Ala Lys Glu Ile
 180 185 190
 Met Asp Trp His Gln Ser Leu Pro Asn Phe Lys Asp His Gly Glu His
 195 200 205
 Pro Ala Asp Tyr Thr His Gly Lys Glu Pro Val Gly Lys Val Phe Arg
 210 215 220
 His Ile His Ile Asn His Gly Pro Asp Leu Glu Lys Ala Ile Asp Ala
 225 230 235 240
 Val Lys Glu Glu Ile Ser Lys Asn Glu Phe Ile Arg His Lys Tyr Ser
 245 250 255
 Thr Arg Tyr Leu Ala Ile Lys Leu Leu Glu Asn Asp Pro Glu Ile Glu
 260 265 270
 Arg Phe Ile His Thr Leu Pro Asn Ala Val Glu Val Glu Lys Ser Leu
 275 280 285
 His His Gly Ala Gly Arg Ile Ser Ala Val Gln
 290 295

<210> 9364

<211> 208
<212> PRT
<213> B.fragilis

<400> 9364

Thr	Asn	Asn	Ser	Phe	Lys	Pro	Lys	Gln	Lys	Lys	Val	Met	Lys	Lys	Phe
1				5					10						15
Ile	Ala	Leu	Val	Ala	Leu	Val	Leu	Val	Ser	Ala	Ser	Thr	Leu	Met	Tyr
									20			25			30
Ala	Gln	Glu	Ser	Gln	Arg	Asp	Ile	Arg	Arg	Ala	Asp	Arg	Lys	Ala	Gln
					35			40							45
Arg	Asp	Ala	Glu	Arg	Ala	Arg	Leu	Lys	Ala	Glu	Glu	Gln	Ala	Ala	Asp
					50			55				60			
Gln	Val	Ala	Tyr	Gln	Gln	Ala	Val	Gln	Ala	Ile	Lys	Asp	Lys	Gln	Phe
					65			70			75				80
Val	Leu	Glu	Ala	Asp	Gln	Val	Ile	Phe	Lys	Arg	Gly	Gln	Thr	Ala	Phe
					85				80		90				95
Val	Ser	Ser	Asn	Thr	Asn	Phe	Val	Met	Leu	Asn	Gly	Gln	Arg	Ala	Thr
					100				105						110
Val	Gln	Val	Ala	Phe	Asn	Thr	Pro	Tyr	Pro	Gly	Pro	Asn	Gly	Ile	Gly
					115				120						125
Gly	Val	Thr	Val	Asp	Gly	Thr	Thr	Ser	Asp	Val	Lys	Val	Thr	Thr	Asp
					130			135				140			
Lys	Arg	Gly	Asn	Val	Asn	Cys	Asn	Phe	Ser	Val	Gln	Gly	Ile	Gly	Ile
					145			150			155				160
Ser	Ala	Gln	Val	Phe	Ile	Thr	Leu	Thr	Asn	Gly	Gly	Asn	Asn	Ala	Thr
					165				170						175
Val	Thr	Ile	Asn	Pro	Asn	Phe	Asn	Ser	Asn	Thr	Leu	Thr	Leu	Ser	Gly
					180				185						190
Asn	Leu	Val	Pro	Leu	Asn	Gln	Ser	Asp	Val	Phe	Lys	Gly	Arg	Ser	Trp
					195				200						205

<210> 9365

<211> 482
<212> PRT
<213> B.fragilis

<400> 9365

Lys	Arg	Lys	Arg	Arg	Ile	Met	Lys	Lys	Ala	Pro	Ser	Pro	Leu	Val	Ser
1					5				10						15
Leu	Ile	Pro	Leu	Val	Val	Leu	Val	Ile	Met	Leu	Phe	Ala	Thr	Ile	Arg
					20				25						30
Thr	Phe	Gly	Ser	Asp	Ala	Leu	Ser	Gly	Gly	Ser	Gln	Val	Ser	Leu	Leu
					35			40							45
Thr	Thr	Thr	Ala	Val	Cys	Ile	Leu	Ile	Gly	Met	Gly	Phe	Tyr	Lys	Ile
					50			55			60				
Gly	Trp	Lys	Asp	Phe	Glu	Leu	Ala	Ile	Thr	Asn	Asn	Ile	Thr	Gly	Val
					65			70			75				80
Ser	Thr	Ala	Leu	Ile	Ile	Leu	Leu	Ile	Ile	Gly	Ala	Leu	Ser	Gly	Ala
					85			90							95
Trp	Met	Ile	Ser	Gly	Val	Val	Pro	Thr	Leu	Ile	Tyr	Tyr	Gly	Val	Gln
					100				105						110
Ile	Ile	His	Pro	Ser	Phe	Phe	Leu	Thr	Ser	Thr	Cys	Ile	Ile	Cys	Ala
					115				120						125
Leu	Val	Ser	Val	Met	Thr	Gly	Ser	Ser	Trp	Thr	Thr	Ile	Ala	Thr	Ile
					130			135			140				
Gly	Ile	Ala	Leu	Met	Gly	Ile	Gly	Lys	Ala	Gln	Gly	Phe	Glu	Glu	Gly
					145			150			155				160
Trp	Ile	Ala	Gly	Ala	Ile	Ile	Ser	Gly	Ala	Tyr	Phe	Gly	Asp	Lys	Ile

165	170	175
Ser Pro Leu Ser Asp Thr Thr Ile Leu Ala Ala Ser Val Thr Asp Thr		
180	185	190
Pro Leu Phe Arg His Ile Arg Tyr Met Leu Ile Thr Thr Val Pro Ser		
195	200	205
Leu Ile Ile Thr Leu Val Ile Phe Thr Val Ala Gly Leu Ser His Asn		
210	215	220
Ala Gly Ser Thr Glu His Ile Ala Glu Phe Ser Ala Ala Leu Ala Gly		
225	230	240
Lys Phe His Ile Thr Pro Trp Leu Leu Ile Val Pro Val Val Thr Gly		
245	250	255
Val Leu Ile Ala Arg Arg Val Pro Ser Val Ile Thr Leu Phe Leu Ser		
260	265	270
Ala Ala Leu Ala Gly Ala Phe Ala Val Phe Phe Gln Pro Asp Leu Leu		
275	280	285
Gln Glu Ile Ser Gly Leu Gln Asn Ser Glu Gly Thr Gln Ser Ile Phe		
290	295	300
Lys Gly Leu Met Met Thr Leu Tyr Gly Gly Thr Ser Leu Gln Thr Ser		
305	310	320
Asn Glu Ala Leu Thr Glu Leu Val Ala Thr Arg Gly Met Ala Gly Met		
325	330	335
Met Asn Thr Val Trp Leu Ile Ile Cys Ala Met Cys Phe Gly Gly Ala		
340	345	350
Met Thr Ala Gly Gly Met Leu Gly Ser Ile Thr Ser Val Phe Val Arg		
355	360	365
Phe Met Lys Asn Thr Val Ser Met Val Ala Ser Thr Val Cys Ser Gly		
370	375	380
Ile Phe Leu Asn Leu Ala Thr Ala Asp Gln Tyr Ile Ser Ile Ile Leu		
385	390	400
Thr Gly Asn Met Phe Arg Asp Ile Tyr Glu Lys Lys Gly Tyr Glu Ser		
405	410	415
Cys Leu Leu Ser Arg Thr Thr Glu Asp Ser Val Thr Val Thr Ser Val		
420	425	430
Leu Ile Pro Trp Asn Thr Cys Gly Met Thr Gln Ala Thr Ile Leu Ser		
435	440	445
Val Pro Thr Leu Val Tyr Leu Pro Tyr Cys Phe Phe Asn Ile Ile Ser		
450	455	460
Pro Leu Met Ser Ile Thr Ile Ala Ala Ile Gly Tyr Lys Ile Val Arg		
465	470	480
Arg Lys		

<210> 9366

<211> 63

<212> PRT

<213> B.fragilis

<400> 9366

Pro Ala Ser Ile Cys Gln Ser Asn Arg Arg Tyr Tyr Tyr Ile Cys Ile			
1	5	10	15
Ser Ile Gly Ser Leu Gln Ala Arg Ser Ile Ile Tyr Phe Gln Gly Leu			
20	25	30	
Tyr Ser Gln Arg Tyr Asn Leu Ser Tyr Lys Glu Phe Thr Ile Cys Thr			
35	40	45	
Leu Lys Phe Met Leu Arg Ile Phe Arg Leu Phe Leu Asn Lys Ile			
50	55	60	

<210> 9367

<211> 394

<212> PRT
<213> B.fragilis

<400> 9367

Leu	Cys	Ala	Met	Lys	Gln	Ile	Leu	Lys	Glu	Asn	Gly	Gly	Leu	Pro	Ala
1				5				10						15	
Ser	Ile	Leu	Trp	Thr	Leu	Ala	Ile	Val	Ala	Gly	Ile	Ser	Val	Ala	Asn
				20				25						30	
Leu	Tyr	Tyr	Asn	Gln	Pro	Leu	Leu	Asn	Met	Ile	Arg	His	Glu	Leu	Gly
				35				40					45		
Val	Ser	Glu	Phe	Glu	Thr	Asn	Leu	Ile	Ala	Met	Val	Thr	Gln	Ile	Gly
				50				55					60		
Tyr	Ala	Leu	Gly	Leu	Leu	Phe	Ile	Val	Pro	Leu	Gly	Asp	Leu	Tyr	Gln
				65				70			75			80	
Arg	Lys	Arg	Ile	Ile	Leu	Thr	Ser	Phe	Ser	Ile	Leu	Ile	Val	Ser	Leu
				85				90					95		
Leu	Val	Ile	Ala	Met	Ala	Pro	Asn	Ile	His	Val	Ile	Leu	Cys	Ala	Ser
				100				105					110		
Leu	Leu	Thr	Gly	Ile	Cys	Ser	Val	Met	Pro	Gln	Ile	Phe	Ile	Pro	Ile
				115				120				125			
Ala	Ser	Gln	Phe	Ser	Arg	Pro	Glu	Asn	Lys	Gly	Arg	Asn	Val	Gly	Ile
				130				135			140				
Val	Val	Ser	Gly	Leu	Leu	Thr	Gly	Ile	Leu	Ala	Ser	Arg	Val	Val	Ser
				145				150			155			160	
Gly	Phe	Ile	Gly	Glu	Leu	Phe	Gly	Trp	Arg	Glu	Met	Tyr	Tyr	Ile	Ala
				165				170				175			
Ala	Gly	Met	Met	Leu	Ile	Cys	Gly	Met	Val	Val	Met	Arg	Val	Leu	Pro
				180				185			190				
Asp	Ile	Arg	Pro	Asn	Phe	Gln	Gly	Lys	Tyr	Ser	Asp	Leu	Met	Lys	Ser
				195				200			205				
Leu	Leu	Ser	Leu	Leu	Lys	Gln	Tyr	Pro	Glu	Leu	Arg	Ile	Phe	Ser	Val
				210				215			220				
Arg	Ala	Ala	Leu	Ala	Phe	Gly	Ser	Phe	Leu	Ala	Met	Trp	Ser	Cys	Leu
				225				230			235			240	
Ala	Phe	Lys	Met	Gly	Ser	Ala	Pro	Phe	Tyr	Ala	Asp	Ser	His	Ile	Ile
				245				250			255				
Gly	Met	Leu	Gly	Leu	Cys	Gly	Ile	Ala	Gly	Ala	Leu	Ser	Ala	Ser	Leu
				260				265			270				
Val	Gly	Lys	Tyr	Val	Arg	Lys	Val	Gly	Val	Arg	Arg	Phe	Asn	Phe	Ile
				275				280			285				
Gly	Cys	Gly	Leu	Ile	Leu	Ser	Ala	Trp	Leu	Leu	Leu	Phe	Ile	Gly	Glu
				290				295			300				
Asn	Ser	Tyr	Trp	Gly	Ile	Val	Ala	Gly	Ile	Ile	Ile	Asp	Ile	Gly	
				305				310			315			320	
Met	Gln	Cys	Ile	Gln	Leu	Ser	Asn	Gln	Thr	Arg	Ile	Phe	Glu	Leu	Cys
				325				330			335				
Pro	Ser	Ala	Ser	Asn	Arg	Ile	Asn	Thr	Ile	Phe	Met	Thr	Thr	Tyr	Phe
				340				345			350				
Ile	Gly	Ala	Ser	Thr	Gly	Thr	Phe	Leu	Ala	Gly	Thr	Phe	Trp	Gln	Ala
				355				360			365				
Phe	Gly	Trp	His	Gly	Val	Ile	Gly	Thr	Gly	Val	Ala	Leu	Thr	Thr	Gly
				370				375			380				
Ser	Leu	Leu	Ile	Thr	Phe	Phe	Ser	Lys	Arg						
				385				390							

<210> 9368

<211> 1870

<212> PRT

<213> B.fragilis

<400> 9368

Thr Lys Arg Leu Phe Ala Met Lys Gly Lys Lys Asn Leu Leu Ile Leu
 1 5 10 15
 Phe Ser Cys Val Leu Thr Val Ile Ile Ala Gly Leu Phe Ala Cys Thr
 20 25 30
 Arg Ser Ala Lys Glu Ile Ile Pro Ser Ser Glu Tyr Ala Pro Tyr Val
 35 40 45
 Asn Ala Tyr Thr Gly Gly Val Ile Ser Gln Ser Ser Pro Ile Arg Ile
 50 55 60
 Glu Leu Thr Gln Asp Gln Pro Met Val Asp Leu Asn Asn Glu Leu Lys
 65 70 75 80
 Asp Cys Pro Phe Ser Phe Thr Pro Ser Leu Lys Gly Lys Ala Tyr Trp
 85 90 95
 Val Ser Asn Asn Thr Ile Glu Phe Leu Pro Glu Glu Gly Glu Leu Lys
 100 105 110
 Pro Gly Lys Leu Tyr Gln Gly Ser Phe Gln Leu Gly Asp Phe Val Glu
 115 120 125
 Val Asp Ser Lys Leu Lys Val Phe Asp Phe Ser Phe Arg Val Gln Glu
 130 135 140
 Ser Asn Phe Thr Leu His Thr Ala Pro Leu Glu Ile Ala Ser Ser Ser
 145 150 155 160
 Pro Asp Lys Val Thr Val Lys Gly Glu Ile Arg Phe Ser Asp Lys Met
 165 170 175
 Thr Lys Glu Gln Val Glu Lys Ile Leu Ser Thr Asn Gly Thr Ser Thr
 180 185 190
 Ile Thr Ile Gly Ser Thr Ser Asn Pro Leu Glu Tyr Ser Phe Ile Ile
 195 200 205
 Ser Asn Ile Gln Arg Lys Glu Gln Asp Tyr Asp Leu Lys Ile Thr Ala
 210 215 220
 Asp Gly Glu Pro Val Glu Met Asp Arg Lys Gln Ser Glu Ser Ile Thr
 225 230 235 240
 Ile Pro Ala Lys Asp Ser Phe Arg Phe Leu Ser Ala Glu Arg Ile Ser
 245 250 255
 Gln Pro Glu Asn Gly Ile Gln Ile Val Phe Ser Asp Pro Val Ser Asp
 260 265 270
 Thr Gln Asp Leu Lys Gly Leu Ile Glu Ile Pro Glu Ile Pro Ser Tyr
 275 280 285
 Ile Phe Gln Ile Thr Asp Asn Lys Val Asn Val Tyr Phe Glu Ala Gly
 290 295 300
 Gln Leu Ser Lys Leu Thr Leu Lys Ile His Glu Gly Val Lys Asn Asn
 305 310 315 320
 Gln Gly Lys Ala Leu Gly Ser Ser His Ser Ile Ser Phe Gly Glu Leu
 325 330 335
 Asn Leu Lys Pro Gln Val Glu Ile Ser Ser Ala Gly Ala Ile Ile Pro
 340 345 350
 Asp Ser Lys Asn Leu Val Ile Pro Phe Arg Ala Val Ser Leu Tyr Ala
 355 360 365
 Val Asp Leu Arg Val Ile Arg Ile Phe Glu Asn Asn Val Leu Met Phe
 370 375 380
 Met Gln Asn Asn Ser Leu Ser Ser Ala Asn Glu Leu Arg Arg Ser Gly
 385 390 395 400
 Arg Leu Val Tyr Lys Lys Thr Leu Phe Leu Gly Lys Asp Pro Ser Lys
 405 410 415
 Asp Ile His Lys Trp Glu Asn Tyr Ser Ile Asp Leu Ala Gly Leu Ile
 420 425 430
 His Gln Glu Pro Gly Ala Ile Tyr Arg Val Ile Leu Ser Phe Lys Gln
 435 440 445
 Glu Tyr Ser Ala Tyr Pro Cys Gly Ser Gly Glu Asn Pro Lys Met Gln

450	455	460
Phe Ser Glu Glu Thr Glu	Ser Leu Thr Lys Val	Lys Ser Asp Ile Leu
465	470	475
Ser Glu Glu Asp Glu Ala Val Trp Asp	Lys Pro Glu Thr Tyr Tyr	Tyr
485	490	495
Phe Ser Gly Asn Glu Asn Ala Asp Trp	Ser Gln Tyr Arg Trp Asp Glu	
500	505	510
Arg Asp Asn Pro Cys His Pro Ser	Tyr Tyr Met Thr Ser Asp Arg Ile	
515	520	525
Ala Ala Cys Asn Val Leu Ala Ser Asn Ile Gly Met	Ile Val Lys Arg	
530	535	540
Asn Ser Met Asn Lys Leu Trp Ile Ala Val	Ser Asn Ile Leu Asp Thr	
545	550	555
Lys Pro Val Glu Lys Ala Lys Val Ile Val	Tyr Asn Phe Gln Leu Gln	
565	570	575
Pro Ile Gly Glu Ala Leu Thr Asp Ala	Glu Gly Phe Ala Ile Ile Glu	
580	585	590
Thr Lys Gly Thr Pro Phe Ile Val Val Ala Glu	Ser Glu Lys Gln Lys	
595	600	605
Ala Tyr Val Lys Val Ala Asp Gly Glu Glu Gln	Ser Thr Thr Arg Phe	
610	615	620
Asp Val Gly Gly Lys Asp Ile Gln Lys Gly	Leu Lys Gly Phe Val Tyr	
625	630	635
Gly Glu Arg Gly Val Trp Arg Pro Gly Asp	Thr Leu His Ile Ser Phe	
645	650	655
Val Leu Glu Asp Arg Asn Lys Arg	Ile Pro Asp Lys His Pro Val Thr	
660	665	670
Leu Glu Leu Tyr Asn Pro Arg Gly Gln Phe Tyr	Ser Lys Gln Ile Ser	
675	680	685
Thr Asn Gly Leu Asn Gly Phe Tyr Thr Phe	Lys Val Pro Thr Gln Pro	
690	695	700
Glu Asp Pro Thr Gly Leu Trp Asn Ala Tyr	Val Lys Val Gly Gly Thr	
705	710	715
Ala Phe His Lys Ser Leu Arg Val Glu	Thr Ile Lys Pro Asn Arg Leu	
725	730	735
Lys Ile Asn Leu Lys Leu Pro Gly Glu	Ile Leu Lys Ala Ala Asp Lys	
740	745	750
Glu Val Gln Ala His Leu Ser Ser Ala Trp	Leu Thr Gly Ala Thr Ala	
755	760	765
Ser Arg Leu Lys Ala Lys Val Glu Met	Ser Leu Ser Lys Val Asn Thr	
770	775	780
Gln Phe Lys Asn Tyr Glu Thr Tyr Ile Phe	Asn Asn Pro Ala Thr Glu	
785	790	795
Phe Thr Ser Ile Arg Thr Asp Ile Phe	Asn Gly Thr Leu Asp Glu Asn	
805	810	815
Gly Asn Thr Gly Phe Met Leu Lys Leu Pro	Thr Ser Glu Asn Ala Pro	
820	825	830
Gly Met Leu Arg Ala Asn Ile Thr	Thr Gln Val Phe Glu Pro Gly Gly	
835	840	845
Asp Ala Ser Ile Gln Thr Leu Ser Val Pro	Tyr Ser Pro Phe Pro Ser	
850	855	860
Tyr Val Gly Ile Asn Leu Asn Gln Pro	Gln Gly Arg Tyr Ile Glu Thr	
865	870	875
Asp Lys Glu His Ile Phe Asp Ile Val	Thr Val Asn Ser Asp Gly Lys	
885	890	895
Pro Val Asn Arg Ser Gly Leu Glu Tyr	Lys Ile Tyr Arg Ile Ser Trp	
900	905	910
Ser Trp Trp Trp Glu Asn Asp Asn Glu	Ser Phe Glu Thr Tyr Ile Asn	
915	920	925

Ser Ser Ser Ile Thr Pro Val Ala Thr Gly Arg Leu Asn Thr Thr Gly
 930 935 940
 Gly Lys Gly Gln Phe Ser Phe Lys Val Asn Tyr Pro Asp Trp Gly Arg
 945 950 955 960
 Tyr Leu Val Tyr Val Lys Asp Arg Glu Ser Gly His Ala Thr Gly Gly
 965 970 975
 Thr Ile Tyr Val Asp Trp Pro Asp Trp Arg Gly Arg Ser Asn Lys Ser
 980 985 990
 Asp Pro Ser Gly Ile Lys Met Leu Ser Phe Ser Ile Asp Lys Asp Ser
 995 1000 1005
 Tyr Glu Pro Gly Glu Thr Val Thr Ala Ile Leu Pro Ala Ser Ala Gly
 1010 1015 1020
 Gly Arg Ala Leu Val Thr Leu Glu Asn Gly Ser Ser Val Ile Gln Arg
 1025 1030 1035 1040
 Glu Trp Ile Glu Val Ser Gly Lys Glu Asp Thr Lys Tyr Gln Phe Lys
 1045 1050 1055
 Val Thr Pro Glu Met Ala Pro Asn Val Tyr Leu His Ile Ser Leu Leu
 1060 1065 1070
 Gln Pro His Ala Gln Thr Val Asn Asp Leu Pro Ile Arg Met Tyr Gly
 1075 1080 1085
 Ile Met Pro Val Phe Val Thr Asp Lys Gln Thr Val Leu Glu Pro Gln
 1090 1095 1100
 Ile Lys Met Pro Glu Val Leu Arg Pro Glu Gln Val Phe Asn Leu Thr
 1105 1110 1115 1120
 Ile Asn Glu Lys His Gly Arg Pro Met Thr Tyr Thr Leu Ala Ile Val
 1125 1130 1135
 Asp Asp Gly Leu Leu Asp Leu Thr Asn Phe Lys Thr Pro Asp Pro Trp
 1140 1145 1150
 Asn Asn Phe Tyr Ala Arg Glu Ala Leu Gly Ile Arg Thr Trp Asp Met
 1155 1160 1165
 Tyr Asp Asp Val Leu Gly Ala Thr Ala Gly Ser Tyr Gly Ser Met Phe
 1170 1175 1180
 Ser Thr Gly Gly Asp Glu Thr Leu Lys Pro Ser Asp Gln Lys Ala Asn
 1185 1190 1195 1200
 Arg Phe Lys Pro Val Val Lys Phe Ile Gly Pro Phe Ser Ile Gly Lys
 1205 1210 1215
 Gly Lys Ser Arg Thr His Gln Ile Thr Leu Pro Met Tyr Val Gly Ser
 1220 1225 1230
 Val Arg Ala Met Ile Val Ala Gly Gln Asp Gly Ala Tyr Gly Asn Ala
 1235 1240 1245
 Glu Lys Thr Val Pro Val Arg Thr Pro Leu Met Ile Leu Ser Thr Leu
 1250 1255 1260
 Pro Arg Val Leu Ser Thr Asn Glu Glu Ile Glu Val Pro Val Asn Val
 1265 1270 1275 1280
 Phe Ala Leu Glu Asn Asn Val Lys Asn Val Asn Val Ser Ile Gln Ala
 1285 1290 1295
 Ser Gly Ala Gly Ile Gln Val Thr Gly Asn Lys Gln Gln Thr Leu Thr
 1300 1305 1310
 Phe Thr Gln Thr Gly Asp Arg Leu Ile Phe Phe Lys Leu Lys Thr Gly
 1315 1320 1325
 Thr Lys Thr Gly Lys Ala Thr Ile His Leu Thr Ala Asn Gly Asn Gly
 1330 1335 1340
 Gln Asn Thr Lys Glu Thr Ile Glu Ile Glu Val Arg Asn Pro Asn Pro
 1345 1350 1355 1360
 Val Val Thr Leu Arg Glu Ser Gln Trp Val Glu Thr Gly Lys Ser Glu
 1365 1370 1375
 Glu Leu Asn Tyr Gln Leu Ser Ser Gly Ser Glu Gly Asn Ser Ile Gln
 1380 1385 1390
 Leu Glu Val Ser Arg Ile Pro Ser Val Asp Ile Ser Arg Arg Phe Asp

1395	1400	1405
Phe Leu Tyr Asn Tyr Gln His Asn Cys Thr Glu Gln Leu Thr Ser Lys		
1410	1415	1420
Ala Leu Pro Leu Leu Phe Ile Ser Gln Phe Lys Thr Val Asp Asn Glu		
1425	1430	1435
Glu Leu Glu Lys Ile Lys Val Asn Val Gln Glu Ala Ile Arg Gln Leu		1440
1445	1450	1455
Tyr Gly Arg Gln Leu Pro Asn Gly Gly Phe Val Tyr Trp Pro Gly Asn		
1460	1465	1470
Ala Ser Ala Asp Glu Trp Ile Thr Ser Tyr Ala Gly Met Phe Leu Ile		
1475	1480	1485
Leu Ala Gln Glu Lys Gly Tyr Ala Val Asn Ser Asn Val Leu Asn Lys		
1490	1495	1500
Trp Lys Arg Phe Gln Arg Ala Ala Ala Gln Asn Trp Gln Pro Val Ala		
1505	1510	1515
Gln Glu Gln Ser Trp Trp Tyr Trp Gln Ala Asp Phe Gln Gln Ala Phe		
1525	1530	1535
Arg Leu Tyr Thr Leu Ala Met Ala Gly Ala Pro Glu His Gly Ala Met		
1540	1545	1550
Asn Arg Met Lys Glu Leu Pro Thr Leu Ser Gln Gln Ala Lys Trp Arg		
1555	1560	1565
Leu Ala Ala Ala Tyr Ala Leu Asn Gly Lys Glu Lys Ala Ala Gly Glu		
1570	1575	1580
Leu Val Phe Ser Ala Lys Thr Thr Val Glu Pro Tyr Ser Ser Asn Asn		
1585	1590	1595
Tyr Val Tyr Gly Ser Ser Asp Arg Asp Glu Ala Met Ile Leu Glu Thr		
1605	1610	1615
Leu Leu Leu Met Asn Arg Gln Arg Glu Ala Met Glu Gln Ala Lys Ile		
1620	1625	1630
Val Ser His Asn Leu Thr Arg Glu Thr Trp Phe Ser Thr Gln Ser Thr		
1635	1640	1645
Ala Phe Ser Leu Met Ala Met Gly Arg Leu Ala Glu Lys Leu Ser Gly		
1650	1655	1660
Thr Leu Asp Phe Ser Trp Thr Leu Asn Gly Lys Gln Gln Pro Ala Val		
1665	1670	1675
Lys Ser Ala Lys Ala Val Tyr Glu Thr Pro Ile Ser Thr Ser Arg		
1685	1690	1695
Glu Gly Lys Val Ile Leu Lys Asn Asn Gly Lys Gly Ala Leu Asn Ala		
1700	1705	1710
Asp Leu Ile Thr Arg Thr Gln Leu Leu Asn Asp Thr Leu Pro Pro Ile		
1715	1720	1725
Ala Asn Asn Leu Arg Ile Ser Val Lys Tyr Val Asp Asn Asn Gly Ser		
1730	1735	1740
Pro Ile Asp Thr His Ser Leu His Gln Gly Thr Asp Phe Met Ala Val		
1745	1750	1755
Val Thr Val Ala Asn Thr Ser Gly Thr Thr Asp Tyr Thr Asn Leu Ala		
1765	1770	1775
Leu Thr His Ile Ile Pro Ala Gly Trp Glu Ile Phe Asn Glu Arg Met		
1780	1785	1790
Thr Gly Gln Ile Ser Thr Ser Ala Pro Tyr Ser Tyr Gln Asp Ile Arg		
1795	1800	1805
Asp Asp Arg Ile Leu Thr Tyr Phe Asn Leu Gln Gln Gly Gln Ala Lys		
1810	1815	1820
Thr Phe Thr Val Arg Leu Gln Ala Thr Tyr Ser Gly Asp Phe Val Met		
1825	1830	1835
Pro Ala Ile Gln Cys Glu Ala Met Tyr Asp Ala Asn Val Gln Ala Arg		
1845	1850	1855
Thr Gln Ala Gly Arg Thr Lys Val Val Arg Gln Ser Ile Glu		
1860	1865	1870

<210> 9369
<211> 161
<212> PRT
<213> B.fragilis

<400> 9369

Tyr	Leu	Val	Ser	Glu	Glu	Cys	Ser	Ser	Phe	Phe	Tyr	Leu	His	Asn	Ser
1				5					10				15		
Asp	Phe	Asn	Met	Phe	Gly	Lys	Lys	Lys	Asn	Glu	Asp	Tyr	Ser	Val	Lys
				20					25				30		
Thr	Val	Lys	Val	Gly	Val	Asp	Lys	Leu	Thr	Thr	Ile	Ala	Leu	Gly	Thr
				35					40			45			
Met	Val	Lys	Gly	Thr	Ile	Thr	Val	Glu	Gly	Asp	Leu	Arg	Leu	Asp	Gly
				50				55			60				
Ile	Ile	Glu	Gly	Asn	Val	Ser	Cys	Arg	Gly	Lys	Val	Val	Ile	Gly	Pro
		65			70			75					80		
Gln	Gly	Arg	Ile	Lys	Gly	Asn	Val	Thr	Cys	Thr	Gly	Ala	Val	Leu	His
				85				90			95				
Gly	Met	Leu	Gln	Gly	Asp	Ile	Gln	Val	Ala	Glu	Asp	Leu	Ile	Met	Lys
				100				105			110				
Ser	Gly	Cys	Thr	Met	Asn	Gly	Asp	Val	Tyr	Thr	Cys	Lys	Leu	Glu	Ile
				115				120			125				
Glu	Ser	Lys	Ala	Arg	Phe	Asn	Gly	Thr	Cys	Asn	Thr	Thr	Glu	Lys	Asp
		130			135				140						
Thr	Leu	Val	Thr	Ser	Gln	Val	Val	Lys	Pro	Glu	Thr	Val	Asp	Thr	Glu
		145				150				155			160		
Lys															

<210> 9370
<211> 421
<212> PRT
<213> B.fragilis

<400> 9370

Ser	Glu	Leu	Phe	Met	Arg	Lys	Lys	Ser	Met	Phe	Leu	Trp	Ser	Leu	Leu
1				5					10				15		
Ala	Ala	Met	Thr	Met	Ser	Ala	Cys	Ser	Glu	His	Asn	Glu	Leu	Pro	Ser
				20				25			30				
Gly	Glu	Val	Pro	Gly	Gly	Asn	Ser	Lys	Ala	Asn	Phe	Ile	Val	Lys	Leu
				35				40			45				
Asn	Phe	Glu	Gly	Thr	Ser	Met	Glu	Gln	Gly	Gly	Lys	Thr	Arg	Ala	Ala
				50				55			60				
Gln	Ser	Thr	Ala	Val	Pro	Glu	Thr	Ser	Trp	Ser	Asn	Ile	Arg	Gln	Val
				65				70			75		80		
Gln	Ile	Leu	Leu	Tyr	Asp	Ala	Ser	Asn	Ile	Val	Arg	Phe	Ser	Asp	Val
				85				90			95				
Val	Thr	Pro	Thr	Ala	Gly	Asn	Thr	Thr	Phe	Thr	Tyr	Thr	Asp	Val	Pro
				100				105			110				
Ala	Gly	Thr	Tyr	Thr	Met	Val	Ala	Ile	Ala	Asn	Ala	Lys	Ser	Ser	Ala
				115				120			125				
Asp	Ala	Ile	Asn	Thr	Tyr	Leu	Asp	Gly	Gly	Thr	Thr	Pro	Val	Glu	Trp
				130				135			140				
Gly	Met	Trp	Asn	Val	Arg	Gln	Lys	Gln	Val	Gln	Asn	Met	Val	Met	Lys
				145				150			155			160	
Tyr	Lys	Thr	Gly	Thr	Phe	Pro	Ala	Phe	Cys	Ser	Ala	Ala	Leu	Ala	Gly
				165				170			175				
Asn	Thr	Ala	Tyr	Thr	Glu	Pro	Ala	Glu	Ile	Phe	Met	Gly	Ala	Val	Ser

180	185	190
Asn Val Val Ile Ser Ser Asp Ala	Thr Ala Thr Pro	Ser Pro Ile Ala
195 200	205	
Leu Lys Arg Glu Val Ser Leu Met Arg Val Arg	Leu Asn Val Lys Asp	
210 215	220	
Lys Glu Gly Asn Thr Asn Asn Glu Asn Thr Ala	Lys Gly Val Asp Phe	
225 230	235	240
Thr Gln Asp Ala Ser Ile Met Ile Tyr Arg	Leu Pro Asp Tyr Leu Lys	
245 250	255	
Val Met Ala Gly Asn Asp Gly Gly Val Ser Ala	Thr Ser Thr Ala Thr	
260 265	270	
Asn Ile Leu Ser Ile Ser Asp Gly Glu Val Phe	Lys Thr Ala Glu Pro	
275 280	285	
Gly Ala Gly Tyr Asn Pro Gly Gly Met Ile Leu	Asn Gly Asn Phe Thr	
290 295	300	
Met Trp Arg Asp Val Val Phe Pro Asn Asn Gly	Gly Arg Val Asn	
305 310	315	320
Asp Ser Ala Thr Thr Gly Thr Ala Asp Arg	Gln Arg Gln Tyr Phe Ile	
325 330	335	
Val Val Ser Gly Arg Gly Lys Ala Gly His Ile	Leu Gly Asp Gly Thr	
340 345	350	
Ala Leu Pro Ser Asp Ala Thr Val Tyr Trp Ser	Gly Val Val Lys Glu	
355 360	365	
Asn Phe Val Pro Asn Val Ile Arg Glu Val Asn	Leu Thr Leu Arg Thr	
370 375	380	
Gly Gly Ser Thr Thr Val Pro Val Thr Pro	Thr Glu Tyr Gly Gly Leu	
385 390	395	400
Thr Ile Thr Val Gly Ala Pro Thr Pro Trp Asp	Ser Asn Ile Val Asn	
405 410	415	
Ser Asp Ile Ile Met		
420		

<210> 9371

<211> 386

<212> PRT

<213> B.fragilis

<400> 9371

Glu Tyr Ser Phe Tyr Leu Leu Leu Leu	Pro Ile Leu Thr Ile Phe Ala	
1 5	10	15
Leu Arg Leu Lys Thr Lys Val Met Gly	Lys Glu Lys Ile Ile Leu Thr	
20 25	30	
Gly Asp Arg Pro Thr Gly Lys Leu His	Ile Gly His Tyr Val Gly Ser	
35 40	45	
Leu Lys Arg Arg Val Glu Leu Gln Asn	Ser Gly Ser Phe Asp Lys Thr	
50 55	60	
Phe Ile Phe Ile Ala Asp Ala Gln Ala	Leu Thr Asp Asn Ile Asp Asn	
65 70	75	80
Pro Glu Lys Val Arg Gln Asn Val Ile	Glu Val Ala Leu Asp Tyr Leu	
85 90	95	
Ala Cys Gly Leu Asp Pro Glu Lys Ser	Thr Ile Phe Ile Gln Ser Gln	
100 105	110	
Ile Pro Glu Leu Cys Glu Leu Thr Phe	Tyr Tyr Met Asp Leu Val Thr	
115 120	125	
Val Ser Arg Leu Gln Arg Asn Pro Thr	Val Lys Thr Glu Ile Gln Met	
130 135	140	
Arg Asn Phe Glu Thr Ser Ile Pro Val	Gly Phe Phe Thr Tyr Pro Ile	
145 150	155	160
Ser Gln Ala Ala Asp Ile Thr Ala Phe	Arg Ala Thr Thr Val Pro Val	

	165	170	175												
Gly	Glu	Asp	Gln	Glu	Pro	Met	Ile	Glu	Gln	Ala	Arg	Glu	Ile	Val	Arg
				180				185					190		
Arg	Phe	Asn	Tyr	Ile	Tyr	Gly	Glu	Thr	Leu	Val	Glu	Pro	Glu	Ile	Leu
				195				200					205		
Leu	Pro	Asp	Asn	Ala	Ala	Cys	Leu	Arg	Leu	Pro	Gly	Thr	Asp	Gly	Lys
				210			215				220				
Ala	Lys	Met	Ser	Lys	Ser	Leu	Gly	Asn	Cys	Ile	Tyr	Leu	Ala	Glu	Glu
				225			230			235				240	
Ala	Asp	Glu	Ile	Gln	Lys	Lys	Val	Met	Ser	Met	Phe	Thr	Asp	Pro	Asp
				245			250				255				
His	Leu	Arg	Val	Gln	Asp	Pro	Gly	Lys	Ile	Glu	Gly	Asn	Thr	Val	Phe
				260			265				270				
Thr	Tyr	Leu	Asp	Ala	Phe	Cys	Arg	Pro	Glu	His	Phe	Glu	Arg	Tyr	Leu
				275			280				285				
Pro	Asp	Tyr	Pro	Asn	Leu	Asn	Glu	Leu	Lys	Ala	His	Tyr	Gln	Arg	Gly
				290			295				300				
Gly	Leu	Gly	Asp	Val	Lys	Val	Lys	Arg	Phe	Leu	Asn	Ser	Ile	Met	Gln
				305			310			315				320	
Glu	Glu	Glu	Pro	Ile	Arg	Asn	Arg	Arg	Lys	Glu	Phe	Glu	Lys	Asp	
				325			330				335				
Ile	Pro	Ala	Ile	Tyr	Glu	Met	Leu	Arg	Lys	Gly	Cys	Glu	Val	Ala	Arg
				340			345				350				
Ala	Ala	Ala	Ala	Asp	Thr	Leu	Ser	Asp	Val	Arg	Lys	Ala	Met	Lys	Ile
				355			360				365				
Asn	Tyr	Phe	Asp	Asp	Ala	Glu	Leu	Ile	Asn	Glu	Gln	Val	Lys	Arg	Phe
				370			375				380				
Asn	Lys														
				385											

<210> 9372

<211> 399

<212> PRT

<213> B.fragilis

<400> 9372

Leu	Leu	Arg	Tyr	Met	Lys	Lys	Ile	Leu	Met	Leu	Leu	Ala	Leu	Ala	Gly
				1	5			10		15					
Val	Thr	Ser	Val	Ala	Ser	Ala	Gln	Gln	Thr	Thr	Ile	Thr	Gly	Tyr	Glu
				20			25				30				
Val	Ile	Gln	Val	Gln	Asp	Lys	Tyr	Gln	Val	Ile	Thr	Asn	Pro	Phe	Trp
				35			40				45				
Asp	Asn	Trp	Phe	Phe	Ser	Ile	Gly	Gly	Gly	Ala	Glu	Ala	Leu	Phe	Gly
				50			55				60				
Asp	Asn	Asp	His	Val	Gly	Lys	Phe	Arg	Asp	Arg	Ile	Ser	Pro	Thr	Leu
				65			70			75			80		
Asn	Val	Ala	Val	Gly	Lys	Trp	Phe	Thr	Pro	Gly	Leu	Gly	Leu	Arg	Leu
				85			90				95				
Gln	Tyr	Ser	Gly	Leu	Gln	Gly	Arg	Gly	Phe	Ala	Gly	Ser	Glu	Thr	Ala
				100			105				110				
Asp	Phe	Val	Lys	Ser	Gly	Lys	Leu	Ala	Asn	Gly	Tyr	Tyr	Lys	Gln	Lys
				115			120				125				
Phe	Asn	Tyr	Met	Asn	Leu	His	Gly	Asp	Val	Met	Phe	Asn	Leu	Asn	Ala
				130			135				140				
Leu	Phe	Gly	Gly	Tyr	Asn	Ser	His	Arg	Val	Tyr	Glu	Ile	Ile	Pro	Tyr
				145			150			155			160		
Leu	Gly	Ala	Gly	Phe	Thr	His	Ser	Tyr	Ser	Lys	Pro	His	Arg	Glu	Ala
				165			170				175				
Phe	Ala	Met	Asn	Ala	Gly	Ile	Ile	Asn	Arg	Phe	Arg	Val	Ser	Ser	Ala

180	185	190
Val Asp Ile Asn Ile Glu Ile Gly	Gly Met Leu Ala Glu	Asp Lys Phe
195 200	205	
Asp Gly Glu Ile Gly Gly Lys His	Gly Tyr Asp Gly Val	Ala Ser Leu
210 215	220	
Thr Ala Gly Leu Thr Tyr Arg Phe	Pro Ala Arg Gly	Phe Ala Arg Pro
225 230	235	240
Met Pro Gln Ile Ile Ser Glu Ile	Glu Leu Ala Asn Met Arg	Arg Gln
245 250	255	
Met Asn Asp Met Ala Ala Asn Gln	Ser Leu Gln Gln Gln	Leu Val
260 265	270	
Asp Ala Gln Asn Gln Pro Val	Ala Glu Val Ala Glu	Gln Val Val Val
275 280	285	
Thr Asp Ala Asn Ile Ala Pro Arg	Thr Val Phe Phe	Thr Ile Gly Ser
290 295	300	
Ser Glu Leu Ser Pro Arg Glu Glu	Met Asn Leu Ser	Tyr Leu Ala Ala
305 310	315	320
Lys Met Lys Glu Phe Pro Asp Thr	Gln Tyr Thr Val	Tyr Gly Tyr Ala
325 330	335	
Asp Ser Ala Thr Gly Thr Pro Ala	Phe Asn Lys Glu	Leu Ser Gln Lys
340 345	350	
Arg Ala Gln Ala Val Val Asn	Ala Leu Val Lys Lys	Tyr Gly Val Asp
355 360	365	
Ser Ser Arg Leu Lys Val Asp	Ala Gly Gly Val	Asp Lys Phe Gly
370 375	380	
Lys Pro Ile Tyr Leu Asn Arg Val	Val Leu Val Glu	Ser Val Lys
385 390	395	

<210> 9373

<211> 62

<212> PRT

<213> B.fragilis

<400> 9373

Val Asn Tyr Lys Thr Gly Arg Lys Lys Asp	Gly Lys Met Ile Val Tyr	
1 5	10	15
Asn His Lys Lys Gly Glu Lys Pro Phe	Ile Gly Phe Ser Pro Leu	Ser
20 25	30	
Tyr Tyr Leu Ile Val Ala Asn Arg Ile	Ile Tyr Ile Pro Ala Ser	Ser
35 40	45	
Leu Ser Glu Tyr Leu Pro Val Ser Asp	Arg Arg Met Pro Arg	
50 55	60	

<210> 9374

<211> 304

<212> PRT

<213> B.fragilis

<400> 9374

Asn Met Arg Lys Asn Arg Leu Leu Ile	Val Leu Phe Thr Gly Val Ala	
1 5	10	15
Val Leu Leu Ser Leu Ala Ser Cys	Thr Tyr Asp Tyr Phe	Glu Asp Glu
20 25	30	
Thr Asn Tyr Gln Val Phe Val Pro	Glu Val Leu Asn Lys	Thr Val Ser
35 40	45	
Asp Cys Arg Val Leu Val Tyr Asn Asp	Ala Gly Thr Leu Val	Gly Ala
50 55	60	
Arg Tyr Ala Thr Ser Pro Trp Asp	Lys Asp Pro Arg Met	Glu Ala Gly
65 70	75	80

Leu Phe Ser Phe Arg Leu Thr Pro Gly Glu Tyr Lys Val Tyr Cys Tyr
 85 90 95
 Thr Asn Thr Asp Ser Leu Thr Phe Val Asp Gly Gln His Leu Asp Ala
 100 105 110
 Ser Ala Phe Ile Leu Lys Ser Ser Ser Thr Gly Pro Asn Arg Tyr Val
 115 120 125
 Gln Leu Ser Asp Ile Leu Phe Gln Lys Phe Val Pro Ala Ile Val His
 130 135 140
 Pro Gly Ile Leu Gln Thr Asp Thr Ala Ala Leu Glu Arg Tyr Thr Gly
 145 150 155 160
 Arg Ile Thr Val Arg Phe Lys Lys Phe Pro Gly Asp Val Ser His Ile
 165 170 175
 Lys Lys Val Gln Leu Leu Ala Glu Gly Ala Pro Val Met Gln Tyr Leu
 180 185 190
 Lys Asn Asp Thr Leu Thr Gly Arg Leu Thr Pro Glu Asp Lys Met Phe
 195 200 205
 His Phe Gly Thr Leu Pro Val Gln Glu Lys Ala Asp Val Leu Glu Val
 210 215 220
 Asp His Arg Phe Ile Pro Ser Val Glu Asn Glu Pro Met Arg Leu Asn
 225 230 235 240
 Tyr Thr Phe Leu Asp Glu Asn Gly Ala Val Val Asn His Leu Pro Val
 245 250 255
 Glu Val Thr Glu Arg Glu Thr Gly Leu Pro Leu Arg Leu Leu His Gly
 260 265 270
 Lys Arg Ile Ile Ile Glu Ile Glu Ser Tyr Thr Val Ile Lys Ile Ser
 275 280 285
 Val Val Gly Trp Asn Glu Asp Ile Glu Ser Gly Asp Thr Asp Met Glu
 290 295 300

<210> 9375

<211> 529

<212> PRT

<213> B.fragilis

<400> 9375

Lys Val Ala Glu Met Arg Lys Lys Ile Gln Ile Leu Leu Ser Ala
 1 5 10 15
 Ala Ala Phe Leu Phe Leu Met Gly Gly Thr Met Pro Ser Val Ala Gln
 20 25 30
 Glu Arg Lys Ile Gly Arg Val Glu Arg Arg Ala Asp Arg Asn Phe Ile
 35 40 45
 Arg Gln Lys Phe Asp Lys Ala Met Ala Gln Tyr Glu Thr Ala Ile Arg
 50 55 60
 Arg Glu Lys Asp Glu Ala Gly Gln Ala Ala Leu His Leu Lys Thr Ala
 65 70 75 80
 Arg Leu Tyr Phe Met Val Arg Glu Tyr Gly Arg Ala Ser Glu His Tyr
 85 90 95
 Asp Lys Ala Met Ser Leu Arg Pro Asp Leu Leu Gly Val Asp Asp Val
 100 105 110
 Cys Asp Tyr Val Asp Ala Leu Arg Phe Gln Gly Gln Ala Arg Lys Ala
 115 120 125
 Glu Ala Ile Cys Leu Asp Asn Ala Tyr Lys Asp Ile Tyr Ser Arg Tyr
 130 135 140
 Gln Arg Tyr Gln Asn Thr Leu Gln Ala Leu Ala Met Arg His Ser Val
 145 150 155 160
 Gln Glu Asp Pro Gly Phe Ser Ala Lys Arg Leu Leu Leu Asn Thr Ser
 165 170 175
 Asn Ala Glu Phe Trp Val Gly Asn Tyr Gly Glu Gln Pro Phe Tyr Ala
 180 185 190

Ile Ser Tyr Ser Lys Phe Asn Asp Pro Gly Lys Leu Phe Phe His Arg
 195 200 205
 Thr His Tyr Tyr Ala Leu Asp Glu Pro Gly Glu Thr Gly Val Glu Thr
 210 215 220
 Gln Lys Pro Pro Arg Tyr Tyr Gly Tyr Phe Arg Lys Ile Pro Ala Asp
 225 230 235 240
 Leu Gln Asn Gly Pro Val Thr Phe Ser Pro Asp Met Lys Ser Met Val
 245 250 255
 Ala Thr Val Ile Glu Tyr Asp Lys Glu Lys Thr Thr Val Glu Met Ala
 260 265 270
 Asn Arg Lys Leu Arg Pro Phe Arg Thr Lys Leu Phe Tyr Ser Val Leu
 275 280 285
 Lys Asn Lys Lys Arg Phe Thr Lys Tyr Val Pro Ala Phe Pro Gln
 290 295 300
 Glu Glu Met Ser Ser Tyr Ala His Pro Tyr Leu Phe Asn Glu Gly Lys
 305 310 315 320
 Ser Leu Leu Phe Thr Ser Asp Met Pro Gly Gly Tyr Gly Phe Asp
 325 330 335
 Leu Tyr Val Val His Trp Asp Glu Glu Ala Gln Ala Trp Gly Thr Pro
 340 345 350
 Val Asn Leu Gly Pro Asp Val Asn Thr Glu Gly Asp Glu Ile Phe Pro
 355 360 365
 Val Ile Tyr Lys Gly Arg Leu Ile Phe Ser Ser Asn Gly Leu Pro Gly
 370 375 380
 Phe Gly Gly Tyr Asp Leu Phe Ser Ala Tyr Tyr Asp Lys Asp Gly Val
 385 390 395 400
 Ile Pro Gly Ser Ile Ser His Phe Pro Tyr Pro Val Asn Ser Val Phe
 405 410 415
 Asn Asp Tyr Tyr Met Cys Pro Leu Asp Leu Arg Thr Ala Tyr Phe Val
 420 425 430
 Ser Asp Arg Glu Met Ala Ser Arg Asp Asp Ile Tyr Tyr Leu Arg Thr
 435 440 445
 Val Glu Asp Leu Gly Thr Gln Gln Gly Met Pro Phe Tyr Gly Met Ser
 450 455 460
 Glu Glu Asn Ala Ile Leu Gly Ala Leu Leu Leu Asn Gly Thr Thr
 465 470 475 480
 Glu Thr Val Ser Pro Glu Ser Val Thr Leu Lys Gln Tyr Ala Pro Glu
 485 490 495
 Gly Leu Leu Met Thr Leu Tyr Phe Asp Phe Asp Ser Asp Glu Leu Thr
 500 505 510
 Asp Glu Cys Leu His His Gly Ala Gly Arg Ile Asp Gly Cys Ser Ala
 515 520 525
 Ile

<210> 9376
<211> 332
<212> PRT
<213> B.fragilis

<400> 9376
Ala Lys Ala Cys Asp Asn Leu Ile Cys Asn Leu Asn Arg Leu Lys Met
1 5 10 15
Lys Lys Glu Leu Leu Thr Arg Phe Met Glu Lys Arg Ile Val Glu Leu
20 25 30
Lys Lys Glu Gln Arg Asn Gly Thr Ala His Val Tyr Gln Ser Thr Leu
35 40 45
Asn Arg Leu Lys Asn Phe Met Asn Gly Arg Glu Ile Thr Phe Ser Gln
50 55 60

Leu Thr Pro Glu Trp Leu Ala Leu Phe Glu Gln Lys Leu Leu Ala Asp
 65 70 75 80
 Gln Leu Lys Trp Asn Thr Ile Ser Thr Tyr Met Arg Met Leu Arg Ser
 85 90 95
 Val Tyr Asn Gln Ala Leu Glu Arg Gly Val Ala Thr Tyr Val Pro Arg
 100 105 110
 Leu Phe Asn Lys Val His Thr Gly Ile Asp Cys Pro Val Lys Arg Ala
 115 120 125
 Val Ser Pro Glu Val Ile Cys Arg Leu Met Thr Asp Arg Lys Pro Leu
 130 135 140
 Pro Gly Lys Leu Ala Phe Ser Arg Asp Leu Phe Val Leu Leu Phe Leu
 145 150 155 160
 Leu Arg Gly Met Pro Phe Val Asp Leu Ala Phe Leu Arg Arg Cys Asp
 165 170 175
 Leu Gln Gly Asn Val Ile Thr Tyr His Arg Arg Lys Thr Ser Arg Lys
 180 185 190
 Leu Thr Val Val Val Gly Lys Glu Ala Met Glu Ile Ile Gln Lys Tyr
 195 200 205
 Met Tyr Ala Ile Pro Asp Ser Pro Tyr Leu Phe Pro Ile Ile Gln Asn
 210 215 220
 Pro Gly Lys Asp Glu Tyr Gly Gln Tyr Ala Arg Met Leu Arg Leu Gln
 225 230 235 240
 Asn Tyr Arg Leu Thr Gln Val Ala Asn Ile Leu Gly Ile Arg Asp Arg
 245 250 255
 Leu Ser Thr Tyr Thr Ala Arg His Thr Trp Ala Thr Thr Ala Leu Arg
 260 265 270
 Gln Asn Tyr Asn Ser Ser Leu Ile Cys Asp Ala Met Gly His Ser Ser
 275 280 285
 Val Lys Val Thr Glu Thr Tyr Phe Gln Pro Tyr Arg Asp Asp Glu Val
 290 295 300
 Asn Arg Met Asn Ser Ser Leu Ile Thr Tyr Ile Leu Ser Lys Lys Lys
 305 310 315 320
 Arg Gly Thr Asp Lys Lys Asn Lys Lys Leu Ile Ala
 325 330

<210> 9377

<211> 202

<212> PRT

<213> B.fragilis

<400> 9377

Lys Arg Ile Arg Met Lys Ser Val Ile Arg His Ile Leu Ser Val Ala
 1 5 10 15
 Val Leu Phe Cys Leu Ile Ser Gly Val Gln Ala Gln Ser Val Lys Val
 20 25 30
 Asn Ile Pro Phe Trp Leu Thr Gly Ser Pro Asn Val Gly Phe Glu Tyr
 35 40 45
 Thr Leu Thr Arg Gln Leu Thr Val Asn Gly Glu Val Leu Trp Met Pro
 50 55 60
 Tyr Leu Phe Lys Lys His Glu Glu Val Phe Arg Ala Leu Gln Ser Ser
 65 70 75 80
 Val Glu Leu Arg Tyr Tyr Val Asn Pro Arg Asn Phe Tyr Thr Asn Asp
 85 90 95
 Ser Trp Asp Gly Phe Tyr Ile Gly Pro Tyr Ala Met Tyr Gly Asn Phe
 100 105 110
 Asn Ile Gly Leu Leu Lys His Asn Asp Pro Leu Gln Ser Tyr Arg Arg
 115 120 125
 Lys Gly Trp Gly Val Ser Gly Gly Ile Ser Thr Gly Tyr Lys Phe Ala
 130 135 140

Phe Asn Ser Arg Trp Gly Leu Asp Leu Asn Ile Gly Leu Gly Tyr Ala
 145 150 155 160
 His Leu Gln Tyr Asn Lys Tyr Tyr Leu Gly Gly Glu Tyr Val Asn Phe
 165 170 175
 Pro Leu Glu Arg Lys Lys Thr Lys Arg Trp Ile Gly Pro Thr Lys Phe
 180 185 190
 Gly Ile Asn Leu Thr Tyr Asn Ile Phe Arg
 195 200

<210> 9378

<211> 1081

<212> PRT

<213> B.fragilis

<400> 9378

Gln Leu Ile Met Thr Ile Lys Glu Met Glu Lys Glu Met Lys Lys Val
 1 5 10 15
 Leu Val Leu Gly Ser Gly Ala Leu Lys Ile Gly Gln Ala Gly Glu Phe
 20 25 30
 Asp Tyr Ser Gly Ser Gln Ala Leu Lys Ala Leu Lys Glu Glu Gly Ile
 35 40 45
 Asn Ser Val Leu Val Asn Pro Asn Ile Ala Thr Ile Gln Thr Ser Glu
 50 55 60
 Gly Ile Ala Asp Lys Val Tyr Phe Leu Pro Val Thr Thr Tyr Phe Val
 65 70 75 80
 Glu Glu Ile Ile Lys Lys Glu Arg Pro Asp Gly Ile Leu Leu Ala Phe
 85 90 95
 Gly Gly Gln Thr Ala Leu Asn Cys Gly Ala Glu Leu Tyr Thr Lys Gly
 100 105 110
 Ile Leu Asp Lys Tyr Gly Val Lys Val Leu Gly Thr Ser Val Glu Ala
 115 120 125
 Ile Met Tyr Thr Glu Asp Arg Asp Leu Phe Val Lys Lys Leu Asp Glu
 130 135 140
 Ile Glu Met Lys Thr Pro Ile Ser Gln Ala Val Glu Ser Met Glu Asp
 145 150 155 160
 Ala Ile Ala Ala Arg Arg Ile Gly Tyr Pro Val Met Val Arg Ser
 165 170 175
 Ala Tyr Ala Leu Gly Gly Leu Gly Ser Gly Ile Cys Ala Asn Glu Glu
 180 185 190
 Glu Phe Leu Lys Leu Ala Glu Ser Ser Phe Ala Phe Ser Lys Gln Ile
 195 200 205
 Leu Val Glu Glu Ser Leu Lys Gly Trp Lys Glu Ile Glu Phe Glu Val
 210 215 220
 Ile Arg Asp Ala Asn Asp His Cys Phe Thr Val Ala Ser Met Glu Asn
 225 230 235 240
 Phe Asp Pro Leu Gly Ile His Thr Gly Glu Ser Ile Val Val Ala Pro
 245 250 255
 Thr Cys Ser Leu Asp Asp Lys Glu Leu Lys Met Leu Gln Glu Leu Ser
 260 265 270
 Thr Lys Cys Ile Arg His Leu Gly Ile Val Gly Glu Cys Asn Ile Gln
 275 280 285
 Tyr Ala Phe Asn Ser Asp Thr Asp Asp Tyr Arg Val Ile Glu Val Asn
 290 295 300
 Ala Arg Leu Ser Arg Ser Ser Ala Leu Ala Ser Lys Ala Thr Gly Tyr
 305 310 315 320
 Pro Leu Ala Phe Val Ala Ala Lys Val Ala Leu Gly Tyr Thr Leu Asp
 325 330 335
 Gln Ile Gly Glu Met Gly Thr Pro Asn Ser Ala Tyr Val Ala Pro Gln
 340 345 350

Leu Asp Tyr Tyr Ile Cys Lys Ile Pro Arg Trp Asp Leu Thr Lys Phe
 355 360 365
 Ala Gly Val Ser Arg Glu Ile Gly Ser Ser Met Lys Ser Val Gly Glu
 370 375 380
 Ile Met Ser Ile Gly Arg Ser Phe Glu Glu Ile Ile Gln Lys Gly Leu
 385 390 395 400
 Arg Met Ile Gly Gln Gly Met His Gly Phe Val Gly Asn Asp Asp Val
 405 410 415
 His Phe Glu Asp Leu Asp Lys Glu Leu Ser His Pro Thr Asp Leu Arg
 420 425 430
 Ile Phe Ala Leu Ala Gln Ala Met Glu Glu Gly Tyr Thr Ile Glu Arg
 435 440 445
 Ile His Glu Leu Thr Lys Ile Asp Pro Trp Phe Leu Gly Lys Leu Lys
 450 455 460
 Asn Ile Val Asp Tyr Lys Ala Lys Leu Ser Ala Tyr Asp Lys Val Glu
 465 470 475 480
 Asp Ile Pro Ala Asp Val Leu Arg Glu Ala Lys Val Leu Gly Phe Ser
 485 490 495
 Asp Phe Gln Ile Ala Arg Phe Val Leu Asn Pro Val Gly Asn Met Glu
 500 505 510
 Lys Glu Asn Leu Met Val Arg Ala Arg Arg Lys Glu Leu Gly Ile Leu
 515 520 525
 Pro Ala Val Lys Arg Ile Asn Thr Ile Ala Ser Glu His Pro Glu Leu
 530 535 540
 Thr Asn Tyr Leu Tyr Met Thr Tyr Ala Val Gln Gly Tyr Asp Val Asn
 545 550 555 560
 Tyr Tyr Lys Asn Glu Lys Ser Val Val Val Leu Gly Ser Gly Ala Tyr
 565 570 575
 Arg Ile Gly Ser Ser Val Glu Phe Asp Trp Cys Ser Val Asn Ala Val
 580 585 590
 Gln Thr Ala Arg Lys Leu Gly Tyr Lys Ser Ile Met Ile Asn Tyr Asn
 595 600 605
 Pro Glu Thr Val Ser Thr Asp Tyr Asp Met Cys Asp Arg Leu Tyr Phe
 610 615 620
 Asp Glu Leu Ser Phe Glu Arg Val Leu Asp Val Ile Asp Leu Glu Gln
 625 630 635 640
 Pro Arg Gly Val Ile Val Ser Val Gly Gly Gln Ile Pro Asn Asn Leu
 645 650 655
 Ala Met Lys Leu Tyr Arg Gln Ser Val Pro Val Leu Gly Thr Ser Pro
 660 665 670
 Ile Ser Ile Asp Arg Ala Glu Asn Arg Asn Lys Phe Ser Ala Met Leu
 675 680 685
 Asp Gln Leu Gly Ile Asp Gln Pro Ala Trp Gln Glu Leu Thr Ser Leu
 690 695 700
 Glu Asp Val Lys Gly Phe Val Glu Lys Val Gly Tyr Pro Val Leu Val
 705 710 715 720
 Arg Pro Ser Tyr Val Leu Ser Gly Ala Ala Met Asn Val Cys Tyr Asp
 725 730 735
 Asp Glu Glu Leu Glu Asn Phe Leu Lys Met Ala Ala Glu Val Ser Lys
 740 745 750
 Glu Tyr Pro Val Val Val Ser Gln Phe Leu Glu Asn Thr Lys Glu Ile
 755 760 765
 Glu Phe Asp Ala Val Ala Gln Asn Gly Glu Val Val Glu Tyr Ala Ile
 770 775 780
 Ser Glu His Ile Glu Phe Ala Gly Val His Ser Gly Asp Ala Thr Leu
 785 790 795 800
 Val Phe Pro Ala Gln Lys Ile Tyr Phe Ala Thr Ala Arg Arg Ile Lys
 805 810 815
 Lys Ile Ser Arg Gln Ile Ala Lys Glu Leu Asn Ile Ser Gly Pro Phe

820	825	830
Asn Ile Gln Phe Leu Ala Arg Asn Asn Glu Val Lys Val		Ile Glu Cys
835	840	845
Asn Leu Arg Ala Ser Arg Ser Phe Pro Phe Val Ser Lys Val Leu Lys		
850	855	860
Arg Asn Phe Ile Glu Thr Ala Thr Arg Ile Met Leu Asp Ala Pro Tyr		
865	870	875
Ser Arg Pro Asp Lys Ser Ala Phe Asp Ile Asp Trp Ile Gly Val Lys		
885	890	895
Ala Ser Gln Phe Ser Phe Ser Arg Leu His Lys Ala Asp Pro Val Leu		
900	905	910
Gly Val Asp Met Ser Ser Thr Gly Glu Val Gly Cys Ile Gly Asp Asp		
915	920	925
Phe Ser Glu Ala Leu Leu Asn Ala Met Ile Ala Thr Gly Phe Lys Ile		
930	935	940
Pro Gly Lys Gly Val Met Phe Ser Ser Gly Ala Met Lys Ser Lys Val		
945	950	955
Asp Leu Leu Glu Ala Ser Arg Met Leu Phe Asn Gln Gly Tyr Lys Ile		
965	970	975
Tyr Ala Thr Ala Gly Thr Ala Ala Phe Leu Asn Ala His Gly Val Asp		
980	985	990
Thr Thr Pro Val Tyr Trp Pro Asp Glu Lys Pro Gly Ala Glu Asn Asn		
995	1000	1005
Val Met Lys Met Ile Ala Asp His Lys Phe Asp Leu Ile Val Asn Ile		
1010	1015	1020
Pro Lys Asn His Ser Lys Arg Glu Leu Thr Asn Gly Tyr Arg Ile Arg		
1025	1030	1035
Arg Gly Ala Ile Asp His Asn Ile Pro Leu Ile Thr Asn Ala Arg Leu		
1045	1050	1055
Ala Ser Ala Phe Ile Glu Ala Phe Cys Asp Leu Lys Leu Glu Asp Ile		
1060	1065	1070
Gln Ile Lys Ser Trp Gln Glu Tyr Lys		
1075	1080	

<210> 9379

<211> 112

<212> PRT

<213> B.fragilis

<400> 9379

Ile Phe Thr Val Leu Lys Lys Thr Ile Lys Ser Phe Pro Ile Phe Gln		
1	5	10
Pro Glu Lys Trp Lys Tyr Leu Leu Leu Pro Phe Pro Lys Asp Asn Pro		
20	25	30
Leu Lys Met Phe Ser Tyr Leu Ile Ser Ile Ala Lys Ile Ile Val Leu		
35	40	45
Leu Cys Val Ile Gln Lys Ile Tyr Leu Asn Leu Pro Pro Ile Ser Ser		
50	55	60
Pro Val Thr Tyr Glu Val Thr Asp Ile Phe Ser Ile Ser Asn Gln Ala		
65	70	75
Ile Ser Phe Leu Phe Leu Ser Val Pro Leu Phe Phe Asp Lys		
85	90	95
Ile Tyr Val Ile Arg Glu Leu Phe Ile Arg Phe Thr Ser Ser Ser Leu		
100	105	110

<210> 9380

<211> 191

<212> PRT

<213> B.fragilis

<400> 9380

Leu	Ser	Lys	Ser	Phe	Phe	Glu	Arg	Ser	Asn	His	Arg	Arg	Gln	Arg	His
1				5				10					15		
Thr	Ser	Leu	Ile	Met	Thr	Leu	Ala	Asp	Gln	Cys	Gly	Cys	Thr	Asp	His
				20				25				30			
Gly	Ile	Tyr	Ala	Ser	Ala	Ser	Asn	Ser	Phe	His	Cys	Thr	Leu	Asp	Tyr
		35					40				45				
Asp	Asp	Pro	Asp	Asp	Pro	Thr	Gln	Ala	Leu	Tyr	Gln	Lys	Glu	Thr	Asp
		50					55				60				
Asn	Ser	Arg	Ile	Lys	Thr	Cys	Thr	Leu	Glu	Pro	Lys	Leu	Asp	Tyr	Arg
		65				70			75			80			
Leu	Cys	Val	Phe	Ser	Cys	Arg	Asn	Thr	Leu	Leu	Arg	Asn	Arg	Arg	Thr
						85			90			95			
Tyr	Tyr	Leu	Tyr	Leu	Tyr	Trp	Thr	Ile	Phe	His	Lys	Gly	Ile	Pro	Glu
						100			105			110			
Val	Thr	Tyr	Leu	Pro	Pro	Asn	Ile	Asp	Phe	Ala	Thr	Arg	Gln	Thr	Asn
						115			120			125			
His	Phe	Phe	Thr	Thr	Ser	Tyr	Glu	Ser	Arg	Met	Pro	Phe	Glu	Thr	Ile
		130				135					140				
Leu	Asn	Ser	Thr	His	Leu	His	Ser	Thr	Tyr	Asn	Val	Ser	Gln	Arg	Ile
		145				150				155			160		
Leu	Val	Glu	Ile	Asn	Ser	Gly	Pro	Phe	Tyr	Trp	Ile	Gly	Lys	Pro	Glu
						165			170			175			
Leu	Leu	Glu	Thr	Ser	Pro	Ser	Ile	Ser	Gln	Asp	Phe	Ser	Arg	Asn	
						180			185			190			

<210> 9381

<211> 389

<212> PRT

<213> B.fragilis

<400> 9381

Tyr	Lys	Met	Leu	Gln	Pro	Glu	Leu	Lys	Met	Arg	Arg	Asp	Lys	Ile	Arg
1				5				10				15			
Val	Leu	Met	Ala	Gln	Gln	Asn	Ile	Glu	Ala	Ala	Leu	Ile	Thr	Cys	Asn
							20	25				30			
Val	Asn	Leu	Leu	Tyr	Thr	Tyr	Gly	Arg	Ile	Val	Ser	Gly	Tyr	Leu	Tyr
						35	40				45				
Leu	Pro	Leu	His	Ser	Pro	Ala	Leu	Leu	Phe	Ile	Lys	Arg	Pro	Asn	Asn
						50	55				60				
Ile	Thr	Gly	Glu	His	Val	Phe	Pro	Ile	Arg	Lys	Pro	Glu	Gln	Ile	Pro
						65	70			75			80		
Asp	Leu	Ile	Lys	Glu	Asn	Asn	Leu	Pro	Met	Pro	Gln	Lys	Leu	Met	Leu
						85	90				95				
Glu	Gly	Asp	Glu	Leu	Ser	Phe	Thr	Glu	Tyr	Asn	Arg	Leu	Ala	Ala	Ile
						100	105				110				
Phe	Pro	Glu	Ser	Glu	Ile	Val	Asn	Gly	Thr	Pro	Leu	Ile	Arg	Glu	Ala
						115	120				125				
Arg	Ser	Val	Lys	Thr	Pro	Val	Glu	Ile	Glu	Leu	Phe	Arg	Arg	Ser	Gly
						130	135				140				
Val	Ala	His	Ala	Lys	Ala	Tyr	Asp	Gln	Ile	Pro	Ser	Val	Tyr	Arg	Pro
						145	150				155			160	
Gly	Met	Thr	Asp	Leu	Glu	Phe	Ser	Ile	Glu	Ile	Glu	Arg	Leu	Met	Arg
						165	170				175				
Leu	Gln	Gly	Asn	Leu	Gly	Ile	Phe	Arg	Val	Phe	Gly	Gln	Ser	Met	Glu
						180	185				190				
Ile	Phe	Met	Gly	Ser	Val	Leu	Thr	Gly	Asp	Asn	Ala	Ala	Tyr	Pro	Ser
						195	200				205				

Pro Tyr Asp Phe Ala Leu Gly Gly Glu Gly Leu Asp Pro Ala Leu Pro
 210 215 220
 Gly Gly Leu Asn Lys Thr Pro Leu Lys Glu Gly Gln Ser Val Met Val
 225 230 235 240
 Asp Leu Gly Gly Asn Phe Asn Gly Tyr Met Gly Asp Met Ser Arg Val
 245 250 255
 Phe Ser Val Gly Lys Leu Ser Asp Glu Ala Tyr Thr Ala His Gln Val
 260 265 270
 Cys Leu Asp Ile Gln Glu Ala Val Ser Ser Met Ala Gln Pro Gly Val
 275 280 285
 Val Cys Glu Asp Leu Tyr Asn Ala Ala Ile Asn Ile Val Thr Lys Ala
 290 295 300
 Gly Phe Ala Asp Lys Phe Met Gly Ile Ser Gln Gln Ala Lys Phe Ile
 305 310 315 320
 Gly His Gly Ile Gly Leu Glu Ile Asn Glu Ala Pro Val Leu Ala Pro
 325 330 335
 Arg Met Lys Gln Glu Leu Glu Pro Gly Met Val Phe Ala Leu Glu Pro
 340 345 350
 Lys Ile Val Ile Pro Gly Val Gly Pro Val Gly Ile Glu Asn Ser Trp
 355 360 365
 Ala Val Thr Pro Glu Gly Val Glu Lys Leu Thr Ile Cys Asn Glu Glu
 370 375 380
 Ile Ile Glu Leu Gln
 385

<210> 9382

<211> 69

<212> PRT

<213> B.fragilis

<400> 9382

Leu Ser Ala Phe Leu Tyr Ser Ala Ser Leu Thr Glu Arg Val Phe Val
 1 5 10 15
 Glu Lys Glu Gly Leu Ala Glu Ser Pro Arg Leu Asn Val Pro Thr Pro
 20 25 30
 Tyr Glu Thr Ala Ser Leu Pro Glu Ser His Glu Ala Thr His Glu Ile
 35 40 45
 Ser Ile Ala Ile Leu Thr Ile Lys Glu Ser Leu Phe Ile Met Ile Thr
 50 55 60
 Thr Asn Tyr Tyr Ser
 65

<210> 9383

<211> 471

<212> PRT

<213> B.fragilis

<400> 9383

His Gln Lys Thr Phe Leu Ile Phe Ala Tyr Glu Thr Ser Tyr Ile Leu
 1 5 10 15
 Ser Glu Ser Thr Phe Leu Lys His Thr Ile Met Asn Ile Glu Lys Ile
 20 25 30
 Met Ser Ser Leu Glu Ala Lys His Pro Gly Glu Ser Glu Tyr Leu Gln
 35 40 45
 Ala Val Lys Glu Val Leu Leu Ser Ile Glu Asp Ile Tyr Asn Gln His
 50 55 60
 Pro Glu Phe Glu Lys Ala Lys Ile Ile Glu Arg Leu Val Glu Pro Asp
 65 70 75 80
 Arg Ile Phe Thr Phe Arg Val Thr Trp Val Asp Asp Lys Gly Glu Val

85	90	95
Gln Thr Asn Leu Gly Tyr Arg Val Gln	Phe Asn Asn Ala Ile	Gly Pro
100	105	110
Tyr Lys Gly Gly Ile Arg Phe His Ala Ser Val Asn Leu Ser Ile Leu		
115	120	125
Lys Phe Leu Gly Phe Glu Gln Thr Phe Lys Asn Ala Leu Thr Thr Leu		
130	135	140
Pro Met Gly Gly Lys Gly Ser Asp Phe Ser Pro Arg Gly Lys		
145	150	155
Ser Asp Ala Glu Ile Met Arg Phe Cys Gln Ala Phe Met Leu Glu Leu		
165	170	175
Trp Arg His Leu Gly Pro Asp Met Asp Val Pro Ala Gly Asp Ile Gly		
180	185	190
Val Gly Gly Arg Glu Val Gly Tyr Met Phe Gly Met Tyr Lys Lys Leu		
195	200	205
Thr Arg Glu Phe Thr Gly Thr Phe Thr Gly Lys Gly Leu Glu Phe Gly		
210	215	220
Gly Ser Leu Ile Arg Pro Glu Ala Thr Gly Phe Gly Gly Leu Tyr Phe		
225	230	235
Val Asn Gln Met Leu Gln Thr Lys Gly Ile Asp Ile Lys Gly Lys Thr		
245	250	255
Val Ala Ile Ser Gly Phe Gly Asn Val Ala Trp Gly Ala Ala Thr Lys		
260	265	270
Ala Thr Glu Leu Gly Ala Lys Val Val Thr Ile Ser Gly Pro Asp Gly		
275	280	285
Tyr Ile Tyr Asp Pro Asn Gly Ile Ser Gly Glu Lys Ile Asp Tyr Met		
290	295	300
Leu Glu Leu Arg Ala Ser Gly Asn Asp Ile Val Ala Pro Tyr Ala Asp		
305	310	315
Glu Phe Pro Gly Ser Thr Phe Val Ala Gly Lys Arg Pro Trp Glu Val		
325	330	335
Lys Ala Asp Ile Ala Leu Pro Cys Ala Thr Gln Asn Glu Leu Asn Gly		
340	345	350
Glu Asp Ala Lys Asn Leu Ile Asp Asn Asn Val Leu Cys Val Gly Glu		
355	360	365
Ile Ser Asn Met Gly Cys Thr Pro Glu Ala Ile Asp Leu Phe Ile Glu		
370	375	380
His Lys Thr Met Tyr Ala Pro Gly Lys Ala Val Asn Ala Gly Gly Val		
385	390	395
Ala Thr Ser Gly Leu Glu Met Ser Gln Asn Ala Met His Leu Ser Trp		
405	410	415
Ser Ala Ala Glu Val Asp Glu Lys Leu His Ser Ile Met His Gly Ile		
420	425	430
His Ala Gln Cys Val Lys Tyr Gly Thr Glu Pro Asp Gly Tyr Ile Asn		
435	440	445
Tyr Val Lys Gly Ala Asn Ile Ala Gly Phe Met Lys Val Ala His Ala		
450	455	460
Met Met Gly Gln Gly Ile Ile		
465	470	

<210> 9384

<211> 248

<212> PRT

<213> B.fragilis

<400> 9384

Val Asn Ile Lys Arg Leu Val Tyr Met Asn Ala Ile Lys Asn Ile Tyr

1 5 10 15

Ala Val Leu Ala Leu Ile Ala Leu Cys Leu Ser Ser Cys Glu Met Lys

20	25	30
Asn Glu Leu Glu Gly Lys Tyr Asn Leu Lys Asn Asp Glu	Gly Leu Leu	
35	40	45
Thr Leu Asp Leu Val Asn Lys Thr Gln Ala Thr Pro	Thr Thr Lys Ala	
50	55	60
Glu Ser Thr Ser Leu Thr Asp Glu Leu Asp Val Asn	Thr Tyr Lys Val	
65	70	75
Glu Ile Val Asp Asn Ala Thr Glu Ala Val Val Arg	Ser Phe Ala Ser	
85	90	95
Tyr Ala Lys Leu Lys Glu Ala Leu Pro Leu Val Val	Pro Val Gly Asn	
100	105	110
Tyr Lys Ile Val Ala Lys Ser Gly Val Leu Gln Asp	Ala Ser Arg Thr	
115	120	125
Pro Tyr Phe Glu Gly Ser Ser Ile Glu Val Lys Gln	Gly Met Glu	
130	135	140
Ser Lys Ala Glu Val Leu Cys Lys Ser Ala Thr Val	Lys Val Ser Leu	
145	150	155
Asn Ile Ser Glu Glu Phe Leu Asn Met Phe Ala Asp	Asp Tyr Val Phe	
165	170	175
Thr Val Ser Asn Gly Ile Gly Val Ile Tyr Val Lys	Lys Glu Asp	
180	185	190
Leu Ser Ser Ile Tyr His Ser Ile Gln Ala Gly Cys	Thr Ser Ile Asn	
195	200	205
Ile Val Ser Lys Glu Arg Gln Lys Asn Ser Gly Arg	Asp Ile Glu Thr	
210	215	220
Val Asp Thr Val Thr Ser His Met Gln Lys Val Cys	Lys Arg Val Ile	
225	230	235
Leu Leu Met Ser Arg Cys Asn Arg		240
	245	

<210> 9385

<211> 201

<212> PRT

<213> B.fragilis

<400> 9385

Lys Ser Val Lys Ile Arg Thr Ile Gln Asn Val Thr Arg	Ser Asp Gln		
1	5	10	15
Lys Trp Gly Ile Gln Leu His Ile Asp Leu Thr Met Asp	Glu Thr Gly		
20	25	30	
Ile Pro Val Lys Val Pro Thr Glu Leu Ile Glu Gln Ser	Asn Pro Glu		
35	40	45	
Asp Pro Asp Gln Pro Ser Asp Pro Asp Gln Pro Thr	Val Asp Glu Pro		
50	55	60	
Asp Ile Ile Gly Pro Tyr Lys Val Val Lys Val Tyr Thr	Asn Asn Pro		
65	70	75	80
Pro Thr Val Gln Val Thr Met Thr Ala Pro Ala Gly Ile	Gln Asn Leu		
85	90	95	
Leu Val Thr Ile Thr Ser Asp Ser Thr Glu Phe Ile Gly	Leu Ile Ser		
100	105	110	
Gln Met Gly Leu Gly Glu Thr Phe Asp Leu Ala Asn Pro	Gly Asp Leu		
115	120	125	
Glu Asp Lys Leu Glu Gly Ser Leu Glu Val Gly Ser	Gly Ile Gly Val		
130	135	140	
Ile Asp Pro Asn Asp Pro Ile Lys Asp Lys Lys Glu	Phe Ile Phe His		
145	150	155	
Val Ser Gly Phe Met Pro Met Leu Ser Pro Phe Gly Leu	Gln Gln His		
165	170	175	
Tyr Phe Thr Ile Lys Leu Ile Asp Asn Gly Thr Glu Leu	Ala Lys		

180	185	
Lys Leu Thr Val Lys Val Val Lys Asn		
195	200	

190	
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<210> 9386

<211> 994

<212> PRT

<213> B.fragilis

<400> 9386

Asn Tyr Gly Lys Pro Met Leu Ser Lys Phe Lys Leu Asn Gln Leu Tyr			
1	5	10	15
Phe Lys Asp Thr Gln Phe Ala Asn Leu Met Thr Arg Arg Ile Phe Asn			
20	25	30	
Val Leu Leu Ile Ala Asn Pro Tyr Asp Ala Phe Met Leu Glu Asp Asp			
35	40	45	
Gly Arg Ile Asp Glu Lys Ile Phe Asn Glu Tyr Thr Ser Leu Ser Leu			
50	55	60	
Arg Tyr Pro Pro Arg Phe Ser Gln Val Ser Thr Glu Glu Glu Ala Leu			
65	70	75	80
Arg Gln Leu Glu Ser Val Ser Phe Asp Leu Val Ile Cys Met Pro Gly			
85	90	95	
Thr Gly Asp Asn Asp Ser Phe Asp Ile Gly Arg His Ile Lys Glu Lys			
100	105	110	
Tyr Glu Gln Ile Pro Ile Val Ile Leu Thr Pro Phe Ser His Gly Ile			
115	120	125	
Thr Lys Arg Ile Ala Asn Glu Asp Leu Ser Ala Phe Asp Tyr Val Phe			
130	135	140	
Cys Trp Leu Gly Asn Thr Asp Leu Leu Val Ser Ile Ile Lys Leu Ile			
145	150	155	160
Glu Asp Lys Met Asn Leu Glu His Asp Val Lys Glu Val Gly Val Gln			
165	170	175	
Leu Ile Leu Leu Val Glu Asp Ser Ile Arg Phe Tyr Ser Ser Val Leu			
180	185	190	
Pro Asn Leu Tyr Lys Phe Val Leu Lys Gln Ser Gln Glu Phe Ser Thr			
195	200	205	
Glu Ala Leu Asn Ala His Gln Arg Thr Leu Arg Met Arg Gly Arg Pro			
210	215	220	
Lys Ile Val Leu Ala Arg Thr Tyr Glu Glu Ala Met Asp Ile Tyr Asn			
225	230	235	240
Lys Tyr Thr Asn Asn Ile Leu Gly Val Ile Thr Asp Val Arg Phe Pro			
245	250	255	
Arg Val Asp Lys Gly Glu Lys Asp Gly Met Ala Gly Ile Lys Leu Cys			
260	265	270	
Ala Glu Val Arg Lys Lys Asp Pro Phe Val Pro Leu Ile Ile Gln Ser			
275	280	285	
Ser Glu Thr Glu Asn Ala Ala Tyr Ala Ala Lys Tyr Gly Ala Thr Phe			
290	295	300	
Ile Asp Lys Asn Ser Lys Lys Met Asp Val Asp Leu Arg Arg Ile Val			
305	310	315	320
Ser Asp Asn Phe Gly Phe Gly Asp Phe Val Phe Arg Asn Pro Glu Thr			
325	330	335	
Gly Val Glu Ile Ala Arg Val Arg Asn Leu Lys Glu Leu Gln Asn Ile			
340	345	350	
Leu Phe Ala Val Pro Ala Glu Ser Phe Leu Tyr His Ile Ser Arg Asn			
355	360	365	
His Val Ser Arg Trp Leu Tyr Ser Arg Ala Met Phe Pro Val Ala Glu			
370	375	380	
Phe Leu Arg Pro Ile Thr Trp His Ser Leu Gln Asp Val Asp Ala His			

385	390	395	400
Arg Lys Ile Ile Phe Glu Ala Ile Val	Lys Tyr Arg Lys Met Lys Asn		
405	410	415	
Gln Gly Val Val Ala Val Phe Lys Arg Asp Arg Phe Asp Arg Tyr Ser			
420	425	430	
Asn Phe Ala Arg Ile Gly Asp Gly Ser Leu Gly Gly Lys Gly Arg Gly			
435	440	445	
Leu Ala Phe Ile Asp Asn Met Val Lys Arg His Pro Glu Phe Glu Glu			
450	455	460	
Phe Glu Asn Ala Arg Val Ala Ile Pro Lys Thr Val Val Leu Cys Thr			
465	470	475	480
Asp Val Phe Asp Glu Phe Met Asp Thr Asn Asn Leu Tyr Gln Val Ala			
485	490	495	
Leu Ser Asp Ala Asp Asp Asp Thr Ile Leu Arg Tyr Phe Leu Lys Ala			
500	505	510	
Lys Leu Pro Asp Arg Leu Val Glu Asp Phe Phe Thr Phe Phe Asp Val			
515	520	525	
Val Lys Ser Pro Ile Ala Ile Arg Ser Ser Ser Leu Leu Glu Asp Ser			
530	535	540	
His Tyr Gln Pro Phe Ala Gly Ile Tyr Asn Thr Tyr Met Ile Pro Tyr			
545	550	555	560
Leu Asp Asp Lys Tyr Glu Met Leu Arg Met Leu Ser Asp Ala Ile Lys			
565	570	575	
Gly Val Tyr Ala Ser Val Tyr Phe Arg Asp Ser Lys Ala Tyr Met Gln			
580	585	590	
Ala Thr Ser Asn Val Ile Asp Gln Glu Lys Met Ala Val Ile Leu Gln			
595	600	605	
Gln Val Val Gly Asn Gln Tyr Gly Asp Arg Tyr Tyr Pro Ser Met Ser			
610	615	620	
Gly Val Ala Arg Ser Leu Asn Tyr Tyr Pro Ile Gly Asp Glu Lys Ala			
625	630	635	640
Glu Glu Gly Thr Val Asn Leu Ala Leu Gly Leu Gly Lys Tyr Ile Val			
645	650	655	
Asp Gly Gly Met Thr Leu Arg Phe Ser Pro Ala His Pro Ser Lys Val			
660	665	670	
Leu Gln Thr Ser Glu Leu Asp Ile Ala Leu Lys Glu Thr Gln Thr Arg			
675	680	685	
Phe Tyr Ala Leu Asp Leu Lys Asn Ala Gly Asp Asn Phe Ser Ile Asp			
690	695	700	
Asp Gly Phe Asn Leu Leu Lys Leu His Val Lys Glu Ala Glu Lys Asp			
705	710	715	720
Gly Ser Leu Arg Tyr Ile Ala Ser Thr Tyr Asp Pro Tyr Asp Gln Val			
725	730	735	
Ile Arg Asp Gly Leu Tyr Pro Gly Gly Arg Lys Val Ile Thr Phe Ala			
740	745	750	
Asn Ile Leu Gln His Asp Val Phe Pro Leu Ala Arg Ile Leu Arg Trp			
755	760	765	
Val Leu Arg Tyr Gly Gln Gln Glu Met Arg Arg Pro Val Glu Ile Glu			
770	775	780	
Phe Ala Val Thr Leu Asn His Asp Arg Asp Lys Thr Gly Thr Phe Tyr			
785	790	795	800
Leu Leu Gln Val Arg Pro Ile Val Asp Ser Lys Asp Met Leu Asp Glu			
805	810	815	
Asp Leu Thr Thr Ile Pro Asp Glu Asp Val Leu Leu Arg Ser Asn Asn			
820	825	830	
Ser Leu Gly His Gly Ile Met Asn Glu Ile His Asp Ile Val Tyr Val			
835	840	845	
Lys Thr Asp His Tyr Ser Ala Ser Asn Asn Gln Asn Ile Ala Trp Glu			
850	855	860	

Ile Glu Lys Ile Asn Gln Gln Phe Leu Asn Glu Gly Lys Asn Tyr Val
 865 870 875 880
 Leu Val Gly Pro Gly Arg Trp Gly Ser Ser Asp Thr Trp Leu Gly Ile
 885 890 895
 Pro Val Lys Trp Pro His Ile Ser Ala Ala Arg Val Ile Val Glu Ala
 900 905 910
 Gly Leu Thr Asn Tyr Arg Val Asp Pro Ser Gln Gly Thr His Phe Phe
 915 920 925
 Gln Asn Leu Thr Ser Phe Gly Val Gly Tyr Phe Thr Ile Asn Ala Phe
 930 935 940
 Met Asn Asp Gly Val Tyr Asn Gln Glu Phe Leu Asn Thr Gln Pro Ala
 945 950 955 960
 Val Phe Glu Thr Glu Tyr Leu Arg His Val Arg Phe Glu Arg Pro Ile
 965 970 975
 Val Val Lys Met Asp Gly Lys Lys Leu Gly Val Val Leu Met Pro
 980 985 990
 Asp Lys

<210> 9387
<211> 81
<212> PRT
<213> B.fragilis

<400> 9387
Asn Ser Thr Asp Lys Ser Arg Cys Phe Tyr Trp Glu Lys Gln Glu Lys
1 5 10 15
Thr Ile His Phe Ile Ala Asp Tyr Pro Tyr Met His Arg Leu Leu Ser
20 25 30
Arg Phe Arg Leu Lys Ile Ser Pro Thr Leu Ile Arg Ile Asp His Lys
35 40 45
Ala Gly His Gly Ser Asn Lys Ala Thr Thr Lys Leu Val Lys Glu Gln
50 55 60
Ala Asp Ile Tyr Ala Phe Ile Met Tyr Asn Leu Gly Met Lys Met Lys
65 70 75 80
Tyr

<210> 9388
<211> 274
<212> PRT
<213> B.fragilis

<400> 9388
Leu Val Val Ile Ile Met Lys Arg Leu Ser Phe Met Val Ser Met Ala
1 5 10 15
Met Leu Ile Ser Cys Val Ala Ser Cys Asp Ser Gly Ser Asp Ala Val
20 25 30
Ser Tyr Gly Val Gly Thr Leu Ser Leu Gly Leu Ser Ala Asn Pro Ser
35 40 45
Phe Ser Thr Lys Thr Arg Ser Val Asn Glu Ala Glu Tyr Lys Lys Ala
50 55 60
Asp Asn Tyr Gln Val Thr Val Lys Asp Ala Asp Gly Ala Ser Leu Tyr
65 70 75 80
Asn Gly Leu Tyr Lys Asp Met Pro Leu Ser Ile Asp Leu Thr Ala Gly
85 90 95
Lys Gly Tyr Thr Val Lys Ala Phe Tyr Gly Glu Asn Val Asn Ala Gly
100 105 110
Phe Asp Lys Leu Tyr Val Glu Gly Ser Gln Glu Phe Thr Val Ser Glu

115	120	125
Gly Glu Gln Lys Asn Val Ile Leu Tyr Cys Lys Pro Ala Asn Val Lys		
130	135	140
Val Ser Val Ile Tyr Thr Glu Asp Phe Leu Lys Tyr Tyr Ser Asp Cys		
145	150	155
Thr Val Ser Leu Ser Thr Ser His Leu Thr Ala Pro Phe Glu Val Asn		
165	170	175
Met Lys Lys Asp Phe Gly Lys Asp Ala Tyr Leu Lys Ala Asn Ala Asp		
180	185	190
Gly Glu Lys Val Ser Ile Thr Val Gly Gly Phe Arg Asp Lys Glu Gly		
195	200	205
Asn Glu Val Val Met Glu Ala Leu Val Ala Glu Lys Lys Val Ala Pro		
210	215	220
Lys Thr His Leu Thr Ile Thr Val Asp Pro Glu Val Ile Thr Ile Ser		
225	230	235
Thr Gly Thr Ala Ser Leu Asp Val Thr Val Asp Thr Gly Thr Glu Asp		
245	250	255
Lys Asp Val Asn Ile Glu Ile Pro Glu Glu Tyr Trp Pro Gly Asn Ala		
260	265	270
Ser Lys		

<210> 9389

<211> 104

<212> PRT

<213> B.fragilis

<400> 9389

Arg Leu Ser Ala Phe Val Leu Pro Tyr Arg His Arg Tyr Thr Tyr Gln			
1	5	10	15
Lys Pro Val Pro Ile Asp Tyr Lys Leu Leu Asp Ser Gln Ile Tyr Ser			
20	25	30	
Tyr Leu Ala Ser Leu Ala Leu Leu Ala Ile Gly Tyr Gln Ser Val Ala			
35	40	.	45
Ser Leu Leu Tyr Pro Tyr Phe Leu Leu Ser Leu Val Ser Ser Leu Leu			
50	55	60	
Pro Ser Tyr Tyr Leu Ser Ile Tyr Lys Tyr Thr Gln Leu His Asn Ile			
65	70	75	80
Pro Gln Arg Lys Phe Lys Phe Phe Lys Ile Lys Gly Lys Leu Leu Asn			
85	90	95	
Asn Leu Leu Tyr Thr Leu Leu Leu			
100			

<210> 9390

<211> 63

<212> PRT

<213> B.fragilis

<400> 9390

Ile Ser Lys Tyr Ser Pro Leu Cys Gln Arg Lys Thr Gln Leu Thr Ile			
1	5	10	15
Phe Phe Val Phe Leu Gln Ser Leu Leu Phe Lys His Thr Phe Leu Tyr			
20	25	30	
Ser Asn Val Phe Val Tyr Tyr Lys Phe Ser Ile Phe Leu Leu Lys Phe			
35	40	45	
Val Leu Phe Leu Pro Glu Lys Leu Tyr Val Cys Thr Ser His Arg			
50	55	60	

<210> 9391

<211> 336
<212> PRT
<213> B.fragilis

<400> 9391

Ile	Gly	Asn	Lys	Lys	Val	Ile	Lys	Met	Lys	Gln	Ala	Thr	Thr	Gly	Asn
1				5				10							15
Lys	Asp	Ile	Ile	Lys	Lys	Leu	Leu	Thr	Asp	Ser	Leu	Ser	Pro	Glu	Glu
				20				25							30
Arg	Glu	Lys	Leu	Asn	Asn	Tyr	Lys	Phe	Val	Asn	Gln	Ala	Ile	Tyr	Ser
				35				40							45
Gln	Trp	Glu	Gln	Ala	Ser	Asp	Met	Tyr	Thr	Asp	Val	Asp	Lys	Glu	Glu
				50				55							60
Arg	Met	Leu	Thr	Asn	Val	Met	His	Gln	Ile	Lys	Gly	Lys	Thr	Gly	
				65				70			75				80
Arg	Phe	Arg	Gln	Asn	Leu	His	Arg	Tyr	Gly	Trp	Val	Ala	Ser	Ile	Ala
				85				90							95
Leu	Leu	Leu	Ile	Cys	Gly	Thr	Leu	Ser	Leu	Met	Leu	Leu	Ser	Arg	Lys
				100				105							110
Ala	Glu	Pro	Glu	Val	Trp	Tyr	Val	Leu	Asn	Ser	Gly	Arg	Gln	Ser	Met
				115				120							125
Asp	Ser	Val	Arg	Leu	Ala	Asp	Gly	Thr	Leu	Val	Met	Leu	Asn	Ala	Gly
				130				135							140
Ser	Arg	Leu	Thr	Tyr	Pro	Lys	Glu	Phe	Ser	Gly	Asn	Lys	Arg	Glu	Val
				145				150				155			160
Thr	Leu	Ser	Gly	Gln	Ala	Phe	Phe	Ser	Val	His	Pro	Asp	Lys	Ala	His
				165				170							175
Pro	Phe	Val	Val	Lys	Thr	Lys	Asn	Met	Asp	Val	Thr	Ala	Leu	Gly	Thr
				180				185							190
Ala	Phe	Glu	Val	Phe	Ser	Phe	Asp	Gly	Asp	Glu	Ser	Val	Glu	Thr	Val
				195				200							205
Leu	Leu	Asn	Gly	Lys	Val	Lys	Val	Glu	Pro	Lys	Asp	His	Lys	Glu	Gln
				210				215							220
Ile	Lys	Gly	Glu	Tyr	Ile	Leu	Gln	Pro	Asn	Glu	Lys	Leu	Thr	Cys	Gln
				225				230			235				240
Val	Asn	Gly	Asp	Ile	Arg	Ile	Asp	Arg	Val	Asp	Ala	Asn	Ser	Tyr	Ser
				245				250							255
Ala	Trp	Arg	Ile	Gly	Gly	Arg	Leu	Ser	Phe	Lys	Asn	Glu	Thr	Leu	Ala
				260				265							270
Met	Ile	Leu	Pro	Arg	Leu	Glu	Lys	Trp	Tyr	Gly	Gln	Lys	Ile	Asp	Cys
				275				280							285
Pro	Gln	Lys	Thr	Ala	Asp	His	Tyr	Arg	Phe	Thr	Phe	Thr	Leu	Arg	Asn
				290				295			300				
Glu	Pro	Leu	Asp	Leu	Ile	Leu	Asn	Ile	Met	Ser	His	Ser	Ala	Pro	Leu
				305				310			315				320
Asn	Tyr	Lys	Leu	Ile	Ser	Asn	Asp	Tyr	Tyr	Val	Leu	Glu	Glu	Leu	Lys
				325				330							335

<210> 9392
<211> 515
<212> PRT
<213> B.fragilis

<400> 9392

Lys	Gln	Ala	Asn	Ala	Glu	Ala	Glu	Ser	Gly	Val	Trp	Lys	His	Leu	Leu
1				5				10							15
Val	Leu	Pro	Glu	Leu	His	Gln	Ser	Val	Trp	Arg	Gln	Asn	His	Lys	Glu
				20				25							30
Leu	Ile	Cys	Lys	Asp	Met	Lys	Thr	Ile	Tyr	Ile	Leu	Leu	Ile	Thr	Val

35	40	45
Leu Ser Trp Ser Leu Gln Ala Cys Thr Ala Gln	Cys Gly Lys Pro Asp	
50	55	60
Ala Cys Thr Asp Ser Ile Pro Arg Ile Tyr Pro Asp Tyr Ala Gly Val		
65	70	75
Thr Phe Pro Leu Asn Ile Ala Pro Pro Asn Phe Arg Ile Gly Glu Asn		
85	90	95
Ala Asp Ala Phe Gln Thr Glu Ile Gly Thr Gly Glu Thr Ala Asp Ile		
100	105	110
Leu Tyr Thr Ser Lys Ser Pro Glu Val Ile Ile Pro Thr Lys Lys Trp		
115	120	125
Lys Lys Leu Leu Gln Lys Ala Ala Gly Lys Glu Ile Phe Ile Arg Ile		
130	135	140
Thr Leu Leu Arg Gly Gly Lys Trp Thr Arg Tyr Ala Asp Ile Lys Asp		
145	150	155
Thr Ile Ser Asn Glu Pro Ile Asp Glu Tyr Leu Val Tyr Arg Leu Leu		
165	170	175
Tyr Pro Gly Tyr Glu Leu Trp Asn Glu Met Gly Ile Tyr Gln Arg Asp		
180	185	190
Leu Thr Gly Tyr Glu Glu Thr Pro Ile Ala Glu Asn Arg Asn Phe Gly		
195	200	205
Lys Gln Cys Ile Asn Cys His Thr Phe Asn Gln Asn Ser Pro Glu Thr		
210	215	220
Met Met Val His Val Arg Gly Lys Ser Gly Gly Thr Leu Ile Cys Lys		
225	230	235
Asn Gly Lys Val Glu Lys Val Asn Thr Lys Pro Glu Gly Phe Lys Asn		
245	250	255
Gly Gly Thr Tyr Ala Ala Trp His Pro Ser Gly Arg Tyr Ile Ala Phe		
260	265	270
Ser Met Asn Glu Ile Gln Gln Phe Phe His Ser Ser Gly Gln Lys Pro		
275	280	285
Ile Glu Val Ser Asp Leu Ala Ala Asp Leu Met Val Tyr Asp Thr Glu		
290	295	300
Lys Lys Thr Phe Leu Thr Asp Ser Leu Ile Cys Gly Glu Arg Tyr Met		
305	310	315
Glu Thr Phe Pro Asn Trp Thr Pro Asp Gly Lys Thr Leu Tyr Phe Cys		
325	330	335
Arg Gly Asn Ala Tyr Lys Glu Lys Met Pro Leu Asp Ser Ile Arg Tyr		
340	345	350
Asp Leu Cys Arg Ile Gly Phe Asp Pro Glu Ser Gly Lys Phe Gly Thr		
355	360	365
Pro Glu Cys Val Tyr Arg Ala Ser Glu Gln Gly Lys Ser Val Ser Phe		
370	375	380
Pro Arg Val Ser Pro Asp Gly Lys Tyr Leu Met Phe Thr Leu Ser Asp		
385	390	395
Tyr Gly Asn Phe Ser Ile Trp His Pro Glu Ser Glu Leu Cys Leu Leu		
405	410	415
Thr Met Asp Thr Gly Glu Ile Arg Phe Leu Asn Glu Val Asn Ser Asn		
420	425	430
Asp Val Glu Ser Phe His Thr Trp Ser Ser Ser Gly Arg Trp Phe Val		
435	440	445
Phe Ser Ser Lys Arg Leu Asp Gly Leu Trp Ala Arg Pro Phe Phe Ala		
450	455	460
Ser Phe Asp Pro Glu Thr Gly Lys Ala Gly Lys Pro Phe Leu Met Pro		
465	470	475
Gln Lys Asp Pro Asp Phe Tyr Asp Thr Phe Thr Lys Thr Tyr Asn Leu		
485	490	495
Pro Glu Leu Ile Lys Gln Pro Val Arg Asn Gly Asn Glu Met Ile Lys		
500	505	510

Ala Ile His
515

<210> 9393

<211> 545

<212> PRT

<213> B.fragilis

<400> 9393

Gln Asn Met Lys Asn Lys Ile Leu Tyr Ile Ile Ala Ser Val Met Leu
 1 5 10 15
 Thr Gly Phe Thr Ser Cys Ser Asp Phe Leu Asp Arg Tyr Pro Thr Glu
 20 25 30
 Glu Leu Ser Asp Gly Ser Phe Trp Lys Thr Lys Thr Asp Ala Glu Met
 35 40 45
 Ala Val Ser Asp Ile Tyr Arg Cys Leu Pro Asn Trp Asp Ile Asp Glu
 50 55 60
 Asp Ile Asn Ser Asp Asn Ala Val His Gly Ile Lys Trp Ala Asn Gly
 65 70 75 80
 Asn Val Ser Lys Gly Val Tyr Asp Pro Ala Asp Gln Gly Trp Ser Glu
 85 90 95
 Asp Tyr Gly Tyr Ile Arg Arg Cys Asn Leu Val Leu Gln Lys Leu Glu
 100 105 110
 Glu Met Glu Leu Ser Gln Ser Asp Lys Glu Pro Ile Ala Gly Gln Ala
 115 120 125
 Tyr Phe Phe Arg Gly Tyr Ile Tyr Phe Glu Leu Ile Arg Lys Phe Gly
 130 135 140
 Asp Val Pro Tyr Ile Asp Gln Pro Leu Lys Leu Thr Asp Val Glu Asp
 145 150 155 160
 Ile Thr Arg Thr Ser Lys Asp Glu Ile Tyr Thr Lys Ile Met Ala Asp
 165 170 175
 Phe Asp Lys Ala Phe Ser Tyr Leu Pro Glu Glu Trp Pro Ala Thr Gln
 180 185 190
 Trp Gly Arg Ile Thr Lys Gly Ala Ala Met Ala Met Lys Ala Arg Ala
 195 200 205
 Ala Leu Tyr Phe Gly Asn Trp Glu Thr Ala Ala Thr Ala Ala Lys Ser
 210 215 220
 Val Met Asp Leu Asn Lys Tyr Asp Leu Tyr Asp Lys Glu Asn Thr Gly
 225 230 235 240
 Lys Tyr Gln Glu Leu Phe Trp Glu Lys Thr Asp Gly Cys Glu Glu Ile
 245 250 255
 Ile Leu Ala Val Gln Tyr Asn Ala Pro Asp Lys Thr Asn Tyr Leu Ile
 260 265 270
 Gly Trp Glu Cys Phe Pro Thr Lys Gly Trp Gly Gly Leu Asn Pro Thr
 275 280 285
 Gln Ser Leu Val Asp Ala Phe Glu Asp Ser Glu Gly Ala Pro Ile Ser
 290 295 300
 Lys Ser Lys Ile Tyr Ser Glu Lys Asn Pro Phe Ala Asn Arg Asp Pro
 305 310 315 320
 Arg Leu Glu Val Asn Val Leu His Asp Gly Glu Glu Met Tyr Gly Val
 325 330 335
 Thr Ile Lys Val Ala Pro Leu Lys Ser Ser Gly Ser Thr Gly Ile Ala
 340 345 350
 Gln His Gly Asp Ala Thr Ala Thr Gly Tyr Tyr Gln Gln Lys Trp Leu
 355 360 365
 Asp Pro Ser Ile Asp Pro Gln Ser Ala Gly Trp Glu Met Gly Lys Asp
 370 375 380
 Trp Val Thr Ile Arg Tyr Ala Glu Val Leu Leu Thr Tyr Ala Glu Ala
 385 390 395 400

Lys Asn Glu Val Ser Pro Leu Asp Asp Ser Ala Phe Glu Ala Val Asn
 405 410 415
 Gln Val Arg Arg Arg Val Gly Met Pro Glu Leu Gln Lys Thr Asp Ala
 420 425 430
 Thr Lys Pro Thr Tyr Cys Ala Thr Gln Asp Asp Leu Arg Gln Arg Ile
 435 440 445
 Arg Asn Glu Trp Arg Val Glu Phe Ala Leu Glu Gly Gly Lys Arg Gln
 450 455 460
 Trp Asp Ile Arg Arg Trp Gly Ile Ala Lys Asp Val Leu Asn Ala Pro
 465 470 475 480
 Phe Leu Gly Ile Lys Tyr Lys Met Val Asp Asp Ala Val Asn Ala Asp
 485 490 495
 Pro Lys Asp Gly Gly Lys Val Cys Val Leu Tyr Glu Gly Asp Asn Val
 500 505 510
 Lys Leu Ala Gly Ser Arg Tyr Glu Asp His Asn Tyr Ile Tyr Pro Ile
 515 520 525
 Pro Gln Ser Glu Ile Asp Leu Asn Pro Lys Leu Thr Gln Asn Pro Gly
 530 535 540
 Tyr
 545

<210> 9394

<211> 62

<212> PRT

<213> B.fragilis

<400> 9394

His Arg Ala Lys Met Lys Phe Lys Ser Pro Pro Leu Lys Ser Tyr Leu
 1 5 10 15
 Leu Pro Leu Ile Asp Tyr Asn Ser Thr Ile Ile Asn Ile Ile Asn Ser
 20 25 30
 Tyr Tyr Lys His His Ile Ala Ser Arg Phe Arg Ile Tyr Val Ala Asn
 35 40 45
 Lys Ser Tyr Thr Thr Arg Phe Val Cys His Lys Leu Phe Tyr
 50 55 60

<210> 9395

<211> 452

<212> PRT

<213> B.fragilis

<400> 9395

Lys Asn Glu Asp Gly Gly Tyr Glu Met Ser Arg Leu Ser Tyr Phe Gly
 1 5 10 15
 Arg Val Gln Tyr Asp Phe Met Asn Lys Tyr Leu Phe Glu Ala Asn Leu
 20 25 30
 Arg Ala Asp Ala Ser Ser Arg Phe Pro Lys Asp Asn Arg Trp Gly Val
 35 40 45
 Phe Pro Ala Ile Ser Ala Gly Trp Arg Ile Ser Glu Glu Thr Phe Ile
 50 55 60
 Lys Asp Asn Val Ser Trp Ile Ser Asn Leu Lys Leu Arg Leu Gly Trp
 65 70 75 80
 Gly Lys Thr Gly Asn Glu Glu Leu Asp Pro Asp Asp Ile Tyr Pro Ala
 85 90 95
 Ile Pro Thr Tyr Ala Tyr Glu Lys Tyr Met Phe Gly Asn Ser Leu Tyr
 100 105 110
 Ser Thr Ala Tyr Glu Ser Arg Tyr Val Asn Asn Asn Leu Gln Trp Ala
 115 120 125
 Thr Val Thr Asn Tyr Glu Leu Gly Leu Glu Ala Gly Phe Leu Asn Asn

130	135	140
Met Phe Gly Phe Glu Leu Ser Val Tyr Lys Lys		Thr Asn Asp Met
145	150	155
Leu Leu Tyr Met Pro Ile Gln Gly Val Ile Gly		Met Gly Ala Pro Ala
165	170	175
Gln Asn Ala Gly Ser Val Glu Asn Thr Gly		Phe Asp Leu Asn Leu
180	185	190
His Asn Asn Arg Ile Asn Lys Asp Trp Ser Tyr		Ala Val Asn Leu Asn
195	200	205
Ile Ala Tyr Val Lys Asn Glu Ile Ile Asp Met		Asn Gly Thr Glu Gly
210	215	220
Ala Asn Ser Lys Asn Asp Lys Leu Trp Tyr		Ile Glu Gly Asn Pro Ile
225	230	235
Gly Ser Tyr Tyr Gly Tyr Val Ala Asn Gly		Tyr Phe Asn Thr Asp Asp
245	250	255
Glu Leu Ala Asn Tyr Pro Lys Arg Thr Gly		Lys Glu Gln Leu Gly Asp
260	265	270
Ile Lys Tyr Leu Asp Leu Asn Gly Asp Gly		Lys Ile Thr Ala Asp Gly
275	280	285
Asp Arg Gln Ile Ile Gly Lys Asn Phe Pro		Ser Trp Thr Thr Gly Leu
290	295	300
Asn Leu Thr Leu Tyr Tyr Lys Asp Phe Asp		Phe Ser Ala Met Phe Gln
305	310	315
Gly Ala Phe Asp Val Asp Gly Tyr Tyr		Met Ala Glu Ala Ala Tyr Ala
325	330	335
Phe Tyr Asn Gly Ala Asn Ala Leu Lys Arg		His Leu Asp Arg Trp Thr
340	345	350
Pro Glu His His Asn Ala Ser Tyr Pro Arg		Ile Thr Lys Asp Ser Gln
355	360	365
Thr Asn Phe Thr Thr Ser Ser Phe Trp Leu		Gln Asn Ala Ser Tyr Val
370	375	380
Arg Leu Lys Thr Ile Ser Leu Gly Tyr Asn		Leu Pro Asn Ser Phe Leu
385	390	395
Ser Lys Leu Gly Val Gln Lys Ala Lys		Leu Tyr Val Ala Gly Glu Asn
405	410	415
Leu Leu Thr Phe Ser Asp Leu Glu Gly		Ile Asp Pro Glu Glu Gly Asn
420	425	430
Glu Arg Gly Trp Ser Tyr Gly Asn Val Lys		Lys Val Ser Ile Gly Leu
435	440	445
Lys Val Ser Phe		
450		

<210> 9396

<211> 201

<212> PRT

<213> B. fragilis

<400> 9396

Asn	Leu	Tyr	Cys	Phe	Ser	Leu	Lys	Asn	Cys	Met	Phe	Ala	His	His	Thr	
1						5				10					15	
Asp	Arg	Phe	Met	Thr	Glu	Lys	Glu	Leu	Ile	Val	Ser	Leu	Lys	Gln	Gly	
							20			25					30	
Asp	Glu	Ala	Ala	Phe	Thr	Ala		Leu	Tyr	Arg	Met	Tyr	Trp	Pro	Lys	Val
							35			40					45	
His	Asn	Phe	Ser	Arg	Leu	Tyr	Leu	Ser	Ser	Ile	Ala	Glu	Val	Glu	Glu	
							50			55					60	
Val	Val	Gln	Glu	Val	Phe	Val	Lys	Leu	Trp	Glu	Ala	Arg	Ile	Phe	Leu	
							65			70					80	
Lys	Glu	Asn	Glu	Ser	Phe	Lys	Gly	Phe	Leu	Phe	Ile	Ile	Thr	Arg	Asn	

85	90	95
Ile Ile Phe Asn Gln Phe Arg Lys Ser	Phe Asn Glu Asn Ala Tyr Lys	
100	105	110
Thr Thr Val Leu Ser Ser Ala Glu Val Glu Tyr Asp Ile Glu Asn Glu		
115	120	125
Met Asp Ala Ala Asp Leu Gln Gly Tyr Ile Lys Lys Leu Ile Ser Glu		
130	135	140
Leu Thr Pro Arg Gln Gln Glu Val Phe His Leu Ser Arg Glu Glu His		
145	150	155
Leu Ser Tyr Lys Glu Ile Ala Ile Arg Leu Ser Ile Ser Glu Lys Thr		
165	170	175
Val Glu Arg His Ile Asn Glu Ala Leu Lys Phe Leu Arg Lys Asn Ile		
180	185	190
Tyr Leu Phe Phe Ile Phe Leu Ser Leu		
195	200	

<210> 9397

<211> 583

<212> PRT

<213> B.fragilis

<400> 9397

His Phe Lys Ser Asn Asp Tyr Met Lys Lys Ile Ile Thr Leu Leu Cys		
1	5	10
Ala Val Thr Thr Leu Thr Ala Cys Asp Ile Asp Arg Leu Pro Tyr Gly		
20	25	30
Ser Met Ser Ala Glu Gln Ile Thr Gln Asp Pro Thr Ser Ser Leu Glu		
35	40	45
Ser Leu Val Asn Gly Cys Tyr Ala Gln Leu Lys Ser Trp Ser Asp Pro		
50	55	60
Met His Arg Leu Gly Glu Tyr Ala Gly Asp Asn Met Ala Lys Asp Lys		
65	70	75
80		
Ser Ser Thr Asp Ala Phe Phe Asp Phe Ile Ser Tyr Ser Arg Asp Ala		
85	90	95
Asp Asn Tyr Arg Leu Gln Ser Phe Trp Asp Ser Gly Tyr Lys Ala Ile		
100	105	110
Ala Gln Ala Ser Asn Ile Ile Lys Met Ile Asp Glu Gly Lys Ser Lys		
115	120	125
Ile Ile Asp Tyr Gln Leu Gly Glu Cys Tyr Tyr Ile Arg Gly Met Met		
130	135	140
Tyr Phe Tyr Leu Gly Arg Ala Phe Gly Arg Pro Tyr Trp Asp Lys Pro		
145	150	155
160		
Glu Gly His Met Gly Val Pro Ile Val Asn Gly Thr Pro Asp Asp Val		
165	170	175
Asn Asn Leu Asn Leu Pro Asp Arg Ser Thr Val Gln Asp Thr Tyr Glu		
180	185	190
Gln Ala Ile Asp Asp Leu Lys Val Ala Ala Arg Leu Met Glu Asn Gly		
195	200	205
Glu Thr Lys Arg Glu Gly Pro Ala Tyr Ala Ser Lys Glu Ala Ala Trp		
210	215	220
Ala Met Leu Ser Arg Ile Tyr Leu Phe Met Ser Gly Thr Tyr Glu Ala		
225	230	235
240		
Pro Asn Ser Glu Asn Ala Gln Leu Ala Ile Asp Tyr Ala Thr Arg Val		
245	250	255
Ile Glu Ser Thr Thr Ser Glu Gly Gly Leu Lys Tyr Glu Leu Leu Ser		
260	265	270
Arg Glu Asn Phe Met Arg Tyr Asn Thr Phe Met Pro Glu Asn Asn Lys		
275	280	285
Glu Ser Ile Phe Val Val Lys Ile Met Ala Ser Glu Lys Pro Asp Tyr		

290	295	300
Trp Asn Ser Ile Gly Gly Met Tyr Ser Tyr Ala Gly Gln Gln Gly Trp		
305	310	315
Gly Glu Met Tyr Ala Ser Ala Lys Tyr Met Asp Leu Leu Asn Glu Gln		320
325	330	335
Gly Arg Asn Asp Trp Arg Pro Asp Lys Lys Lys Ile Val Asp Ala Arg		
340	345	350
Ala Asn Phe Ile Ser Pro Ser Tyr Ile Thr Asp Ser Asp Gly Lys Tyr		
355	360	365
Val Glu Val Phe Arg Phe Ile Lys Asn Val Tyr Asn Lys Asn Asn Ile		
370	375	380
His Thr Gly Tyr Thr Tyr Val Gln Leu Pro Ile Ser Lys Arg Gly Asn		
385	390	395
Thr Val Thr Cys Lys Glu Gly Glu Thr Asn Tyr Thr Leu Ser Leu Ile		400
405	410	415
Asn Ser Ser Glu Glu Lys Tyr Ser Ile Asn Tyr Ser Asp Gly Gln Thr		
420	425	430
Tyr Ser Gly Val Ile Asp Tyr Glu Ile Glu Leu Ser Ser Gly Gln Pro		
435	440	445
Lys Phe Tyr Ile Leu Lys Cys Ser Asn Glu Gly Thr Ala Ser Gly Glu		
450	455	460
Ala Glu Ser Gln Leu His Ser Pro Val Ile Ser Arg Leu Gly Glu Val		
465	470	475
Tyr Leu Asn Arg Ala Glu Ala Tyr Ala Lys Lys Gly Asp Tyr Ser His		
485	490	495
Ala Gln Ala Asp Leu Asn Ile Ile Arg Glu Arg Ser Leu Pro Gly Arg		
500	505	510
Gly Tyr Asn Asp Leu Asn Ala Ser Asn Ala Lys Val Arg Ile Glu Lys		
515	520	525
Glu Arg Gln Leu Glu Leu Ala Tyr Gln Ala Glu Arg Ser Tyr Asp Val		
530	535	540
Phe Arg Asn Cys Glu Thr Leu Thr Arg Lys Tyr Pro Gly Val His Asp		
545	550	555
Ala Met Leu Glu Ile Pro Ala Thr Asp Tyr Arg Val Ile Tyr Phe Ile		560
565	570	575
Pro Gln Ser Ala Ile Asn Ser		
580		

<210> 9398

<211> 1128

<212> PRT

<213> B.fragilis

<400> 9398

Ser Ser Thr Gly Phe Leu Lys Asp Asp Val Tyr Tyr Leu Leu Asn Leu		
1	5	10
Asn Tyr Asn Leu Ile Ile Met Val Phe Met Lys Lys Cys Asn Gln Lys		15
20	25	30
Trp Phe Asn Pro Gln Lys Val Lys Lys Gln Ile Ala Ile Ala Val Ala		
35	40	45
Ile Ser Leu Val Cys Ala Ile Pro Ile Ser Thr Phe Ala Gln Val Leu		
50	55	60
Lys Phe Ser Ile Lys Lys Ser Asn Thr Ser Ile Gln Ser Val Leu Gln		
65	70	75
Glu Leu Glu Lys Glu Ser Gly Tyr Thr Phe Phe Tyr Asn Asp Asn Gln		80
85	90	95
Val Lys Leu Asp Lys Lys Ile Ser Ile Asn Ile Glu Asp Ala Ser Ile		
100	105	110
Glu Val Val Leu Asn Gln Ile Phe Glu Asn Leu Gly Tyr Ser Tyr Arg		

115	120	125
Ile Val Glu Asn Gln Ile Val Ile Tyr Thr Thr Pro	Thr Thr Thr Val	
130	135	140
Gln Gln Thr Val Gln Gln Lys Lys Gln Gln Lys	Val Thr Gly Val Val	
145	150	155
Lys Asp Ile Ala Gly Asp Pro Ile Ile Gly Ala Ser	Ile Ile Glu Lys	160
165	170	175
Gly Ser Ser Ser Asn Gly Thr Ile Thr Asn Val Asn	Gly Asp Phe Ser	
180	185	190
Leu Ile Val Thr Gly Asn Glu Leu Gln Val Ser Tyr	Ile Gly Tyr Ile	
195	200	205
Pro Gln Thr Ile Asn Leu Lys Pro Gly Val Ser	Ser Tyr Asn Val Ile	
210	215	220
Met Lys Glu Asp Thr Lys Thr Leu Asp Glu Val Val	Val Val Val Gly Tyr	
225	230	235
Ser Thr Gln Lys Lys Glu Ser Leu Thr Gly Ala Leu	Gln Thr Val Lys	240
245	250	255
Ser Asp Lys Leu Lys Asp Ile Thr Thr Pro Ser Val	Glu Asn Met Leu	
260	265	270
Asn Gly Lys Val Pro Gly Val Tyr Val Ala Pro Gly	Ser Gly Gln Pro	
275	280	285
Gly Ser Gly Gly Ala Val Val Ile Arg Gly Gln Ala	Thr Leu Ser Gly	
290	295	300
Thr Thr Ala Pro Leu Trp Val Ile Asp Gly Val Ile	Val Gly Ser Asn	
305	310	315
Ala Gly Ala Leu Asn Pro Ser Asp Ile Glu Thr Met	Thr Ile Leu Lys	
325	330	335
Asp Ala Ala Ser Thr Ala Ile Tyr Gly Ser Gln Gly	Ala Asn Gly Val	
340	345	350
Ile Leu Val Thr Thr Lys Asn Gly Lys Ala Glu Lys	Met Thr Val Asn	
355	360	365
Val Ser Ala Lys Val Gly Ile Ser Lys Leu Gly Arg	Gly Asn Met Glu	
370	375	380
Met Met Asp Gly Ala Glu Leu Tyr Asp Tyr Tyr	Lys Ser Phe Ser Asn	
385	390	395
Gln Glu Ala Ile Thr Phe Ser Arg Tyr Asn Asp	Lys Leu Arg Asn Cys	400
405	410	415
Asn Phe Asp Trp Phe Asp Leu Ala Ala Gln Thr Gly	Val Thr Gln Asp	
420	425	430
Tyr Asn Val Ser Leu Ser Gly Gly Asn Glu Lys Ile	Arg Ser Phe Leu	
435	440	445
Ser Ile Gly Val Tyr Asp Glu Glu Gly Ala Val Lys	Gly Tyr Asp Tyr	
450	455	460
Thr Arg Tyr Asn Phe Arg Leu Lys Thr Thr Tyr Lys	Pro Phe Glu Trp	
465	470	475
Leu Ser Ile Lys Pro Ala Leu Ala Gly Ser Arg Arg	Asp Ile Glu Asp	480
485	490	495
Lys Gln Tyr Asp Val Thr Ser Met Phe Gln Arg Leu	Pro Trp Asp Ser	
500	505	510
Pro Phe Asp Glu Glu Gly Asn Leu Val Pro Asn Arg	Tyr Thr Gly Trp	
515	520	525
Val Asn Ser Ser Asn Ser Asn Tyr Leu Tyr Asp Leu	Gln Trp Asn Lys	
530	535	540
Ser Asn Ser Thr Asn Tyr Glu Phe Met Gly Asn Leu	Asp Phe Asp Ile	
545	550	555
Arg Ile Thr Asp Trp Leu Ser Phe Ser Ser Val Asn	Asn Tyr Lys Tyr	560
565	570	575
Ile Gly Tyr Asn Tyr Ser Glu Tyr Thr Asp Pro Arg	Ser Ser Ser Gly	
580	585	590

Glu Gly Val Asp Gly Arg Met Arg Glu Tyr Gln Thr Thr Thr Val Arg
 595 600 605
 Arg Tyr Ser Asn His Ile Ile Arg Phe Asn Lys Met Phe Gly Lys His
 610 615 620
 Ser Ile Asn Ala Leu Ala Ala Tyr Glu Phe Asn Asp Tyr Trp Ala Lys
 625 630 635 640
 Ala Thr Asp Met Tyr Gly Ile Gly Phe Ile Pro Gly Phe Glu Val Leu
 645 650 655
 Asp Val Val Ala Lys Pro Glu Lys Val Gly Gly Ser Ile Ser Glu Trp
 660 665 670
 Ala Val Gln Ser Leu Leu Phe Asn Ala Asn Tyr Ala Phe Asp Asn Lys
 675 680 685
 Tyr Leu Ala Gln Leu Ser Phe Arg Arg Asp Gly Ala Ser Asn Phe Gly
 690 695 700
 Asp Asn Ala Lys Tyr Gly Asn Phe Phe Ser Ile Ser Ala Gly Trp Asn
 705 710 715 720
 Ile Asn Arg Glu Lys Trp Phe His Ala Ser Trp Val Asp Ile Leu Lys
 725 730 735
 Leu Arg Ile Ser Tyr Gly Ser Val Gly Asn Arg Pro Ser Ser Leu Tyr
 740 745 750
 Pro Gln Tyr Asp Leu Tyr Ser Val Ser Ser Lys Tyr Asn Glu Glu Ser
 755 760 765
 Gly Ala Leu Ile Ser Gln Leu Gly Asn Lys Asp Leu Thr Trp Glu Lys
 770 775 780
 Thr Tyr Thr Thr Gly Thr Gly Ile Asp Val Ala Phe Phe Asp Asn Arg
 785 790 795 800
 Leu Arg Ala Ser Phe Asp Trp Tyr Asn Lys Tyr Thr Ser Asn Ile Leu
 805 810 815
 Tyr Ala Val Pro Ile Ser Gly Leu Val Gly Val Thr Ser Met Trp Lys
 820 825 830
 Asn Ile Gly Glu Met Gln Asn Gln Gly Phe Glu Leu Ser Ile Gly Gly
 835 840 845
 Asp Ile Ile Arg Thr Lys Asp Trp Asp Trp Asn Ile Glu Ile Asn Leu
 850 855 860
 Gly His Asn Lys Asn Lys Leu Lys Leu Tyr Lys Thr Lys Asn Ala
 865 870 875 880
 Glu Gly Gln Phe Val Glu Lys Pro Ile Ile Ser Asp Gly Thr Ser
 885 890 895
 Ile Ala Gly Thr Ala Lys Arg Val Leu Gln Pro Gly Tyr Pro Cys Asp
 900 905 910
 Thr Tyr Tyr Leu Lys Glu Trp Ala Gly Val Asn Pro Glu Asn Gly Ala
 915 920 925
 Pro Gln Trp Tyr Lys Thr Val Glu Asn Glu Asp Gly Thr Leu Ser Arg
 930 935 940
 Gln Lys Thr Ser Asn Tyr Ser Glu Ala Asp Gln Val Lys Cys Gly Ser
 945 950 955 960
 Ser Ser Pro Asp Ile Phe Gly Gly Phe Ser Thr Val Leu Arg Trp Lys
 965 970 975
 Asp Leu Asp Leu Asn Ala Val Phe Gly Tyr Ser Val Gly Gly Gln Ile
 980 985 990
 Tyr Asn Tyr Ser Arg Gln Glu Tyr Asp Ser Asp Gly Ala Tyr Asn Asp
 995 1000 1005
 Arg Asn Gln Met Lys Leu Gln Lys Gly Trp Asn Arg Trp Glu Lys Pro
 1010 1015 1020
 Gly Asp Ile Ala Thr His Pro Val Ala Ser Tyr Ser Asn Thr Ser Lys
 1025 1030 1035 1040
 Ser Asn Ser Ser Ser Ser Arg Tyr Leu Glu Lys Asn Asp Tyr Leu Lys
 1045 1050 1055
 Leu Arg Ser Leu Ser Ile Gly Tyr Asn Leu Lys Leu Pro Gln Tyr Tyr

1060	1065	1070
Ile Asn Asn Met Arg Ile Phe Phe Thr Gly Glu Asn Leu Phe Cys Val		
1075	1080	1085
Thr Asn Tyr Ser Gly Val Asp Pro Glu Ile Pro Ala Ser Asp Gly Ser		
1090	1095	1100
Val Ile Gly Thr Ala Leu Pro Ser Val Tyr Pro Thr Val Arg Lys Phe		
1105	1110	1115
Met Phe Gly Leu Asn Leu Thr Phe		
1125		

<210> 9399

<211> 496

<212> PRT

<213> B.fragilis

<400> 9399

Ala Ala Leu Ile Met Arg Lys Tyr Phe Pro Tyr Ile Leu Phe Ile Phe			
1	5	10	15
Leu Phe Phe Ile Tyr Phe Leu Cys Tyr Gln Ser Val Leu Ser His Val			
20	25	30	
Ile Tyr Tyr Gln Glu Gln His His Leu Phe Leu Tyr Ser Lys Thr Phe			
35	40	45	
Phe Leu Gln His Ile Gln Ser Gln Gly Trp Met Ser Tyr Leu Thr Ala			
50	55	60	
Phe Ile Ile Gln Phe Phe His Ile Pro Thr Ile Gly Ser Ile Leu Leu			
65	70	75	80
Ala Gly Ile Leu Ala Leu Ile Tyr Leu Leu Thr Asn Asp Ala Ile Lys			
85	90	95	
Lys Ile Thr Gly His Asn Asp Leu Leu Leu Ser Leu Ile Pro Ser			
100	105	110	
Ile Tyr Leu Phe Leu Tyr Ser Met Thr Val Asp His Ser Leu Thr Pro			
115	120	125	
Ile Ile Ala Thr Phe Leu Gly Leu Leu Ile Met Gly Leu Phe His Gln			
130	135	140	
Ile Thr Val Arg Pro Trp Ser Phe Ile Arg Lys Ile Tyr Ser Pro Leu			
145	150	155	160
Pro Pro Asn Asn Lys Tyr Arg Leu Leu Ile Tyr Ser Leu Leu Ile Ala			
165	170	175	
Ile Tyr Ala Gly Thr Ser Phe Tyr Phe Phe Val Gln Thr Tyr Asn Met			
180	185	190	
Ser Glu His Arg Met Ile Met Ala Glu Lys Ser Val Lys Glu Lys Asn			
195	200	205	
Trp Glu Asn Val Leu Thr Gln Thr Glu Lys Tyr Ile Asn Ser Gly Arg			
210	215	220	
Thr Asn Gln Leu Ile Ser Tyr Phe His Asn Leu Ala Leu Tyr His Thr			
225	230	235	240
Glu Lys Leu Pro Tyr Gln Leu Phe Asp Tyr Pro Gln Lys Leu Gly Val			
245	250	255	
Lys Ala Leu Tyr Phe Pro Trp Asn Ser Asp Ser Arg Glu Ser Glu Tyr			
260	265	270	
Gly His Phe Ile Tyr Glu Asp Leu Gly Tyr Ile Asn Glu Ala Gln Arg			
275	280	285	
Trp Glu Phe Glu Ala Met Val Val Trp Gly Glu Thr Ala Pro His Leu			
290	295	300	
Leu Asn Leu Ala Arg Tyr Asn Ile Val Asn Lys Arg Pro Glu Val Ala			
305	310	315	320
Arg Arg Phe Ile Asn Leu Leu Lys Gln Ser Leu Phe Tyr Arg Lys Asp			
325	330	335	
Ala Glu Glu Leu Glu Lys Gln Leu His Ala Gly Ser Val Pro Gly Leu			

340	345	350
Arg Met Ala Leu Glu Asn Asn Lys	Glu His Pro Ala Arg	Phe Ala Asn
355	360	365
Val Ile Asn Ile Gly Pro Glu Leu Gln Tyr	Leu Cys Glu Gln Asp Thr	
370	375	380
Thr Asn Arg Met Ala Phe Glu Tyr	Leu Met Ser Asp Leu Leu Ser	
385	390	395
Asn Asn Val Val Arg Phe Val Asp Asn	Leu Lys Phe Ile Arg His Phe	
405	410	415
Lys Tyr Pro Glu Met Pro Pro Ala Tyr	Gln Glu Ala Leu Tyr Ile Tyr	
420	425	430
Lys Leu Gly Val Asp Gly Glu	Thr Phe Ser Lys Ser Gly Phe Asn Val	
435	440	445
Ser Glu Asn Thr Glu Lys Arg Phe Gln Arg	Tyr Tyr Asn Leu Tyr Lys	
450	455	460
Asn Arg Gln Met Gln Arg Leu Lys Ala Glu	Phe Gly Asn Thr Tyr Trp	
465	470	475
Tyr Tyr Leu Asn Phe Ile Ser Pro Tyr	Gly Asp Lys Ile Ile Arg Asn	
485	490	495

<210> 9400

<211> 648

<212> PRT

<213> B.fragilis

<400> 9400

Leu Ile Val Phe Met Arg Lys Cys Asn Met Arg Trp Phe Ser Pro Gln		
1	5	10
Arg Met Lys Lys His Leu Ala Phe Ala Leu Ala Val Ser Leu Val Ala		
20	25	30
Met Val Pro Val Ser Ala Phe Ala Gln Val Leu Lys Ile Ser Met Thr		
35	40	45
Lys Thr Asn Val Ser Ile Glu Asn Val Leu Arg Glu Leu Glu Lys Gln		
50	55	60
Ser Asp Tyr Thr Phe Phe Tyr Asn Asp Asn Gln Val Lys Leu Asn Lys		
65	70	75
80		
Lys Val Ser Ile Asn Val Ser Asp Ala Pro Ile Glu Thr Val Leu Asn		
85	90	95
Glu Val Phe Lys Asn Ser Gly Tyr Thr Tyr Lys Ile Val Asp Asn Gln		
100	105	110
Ile Val Val Ser Thr Ala Ala Ala Ala Lys Glu Val Gln Ala Thr		
115	120	125
Gln Gln Gln Lys Gln Arg Asn Ile Ser Gly Val Val Lys Asp Ala Met		
130	135	140
Gly Glu Ala Ile Ile Gly Ala Ser Val Ile Glu Lys Gly Asn Pro Thr		
145	150	155
160		
Asn Gly Thr Ile Thr Asp Ile Asn Gly Lys Phe Ser Leu Asn Val Gly		
165	170	175
Gly Asn Glu Leu Gln Ile Thr Tyr Ile Gly Tyr Met Pro Glu Thr Val		
180	185	190
Ser Leu Lys Thr Gly Val Ala Ser Tyr Asn Ile Ile Met Lys Glu Asp		
195	200	205
Thr Lys Thr Leu Asp Glu Val Val Val Val Gly Tyr Gly Val Gln Lys		
210	215	220
Lys Ala Asn Leu Thr Gly Ser Val Ala Ser Ile Ser Ala Asp Ala Leu		
225	230	235
240		
Glu Ser Arg Ser Val Ala Ser Val Ser Ala Ala Leu Ala Gly Gln Ile		
245	250	255
Pro Gly Val Thr Ser Ile Gln Thr Ser Gly Ala Pro Gly Ser Gln Thr		

260	265	270
Gly Ser Ile Thr Ile Arg Gly	Lys Asn Ser Ile Asn Ala	Ala Ser Pro
275	280	285
Leu Val Ile Val Asp Gly Val	Pro Gly Thr Met Asp	Thr Ile Asp Pro
290	295	300
Ser Asp Ile Glu Thr Leu Thr Val	Leu Lys Asp Ala	Ala Ser Ser Ala
305	310	315
Ile Tyr Gly Val Gln Ala Ala Asn Gly	Val Ile Val Ile	Thr Thr Lys
325	330	335
Gln Gly Lys Lys Gly Glu Lys	Thr His Ile Asn Tyr	Ser Gly Ile Val
340	345	350
Ser Trp Ala Ser Pro Val Val	Lys Arg Gln Tyr Val	Asn Ala Tyr Glu
355	360	365
His Ala Ile Leu Tyr Asn Glu	Ala Val His Asn Glu	Asn Pro Asn Ala
370	375	380
Val Leu Pro Phe Thr Asp Glu Asp Ile	Glu Asn Tyr Arg Asn	Gly Thr
385	390	395
Tyr Pro Ser Thr Asn Trp Tyr Asp Glu	Ala Phe Lys Lys	Ser Ala Phe
405	410	415
Glu Gln Met His Asn Leu Ser Ile Ser	Gly Gly Ser Glu	Lys Thr Thr
420	425	430
Tyr Asn Ala Ser Ile Gly Tyr Thr	Asn Gln Gly Gly	Leu Thr Asp Glu
435	440	445
Ile Ser Tyr Lys Arg Tyr Asn Ala Arg	Met Ser Leu Asn Ser	Asp Ile
450	455	460
Asn Lys Tyr Val Ser Val Gly Val	Asn Ala Ser Gly	Tyr Arg Gly Ile
465	470	475
Lys Glu Asp Gly Trp Met Gly Tyr Val	Thr Val Ala Gln Gly	Val Ser
485	490	495
Arg Ser Tyr Pro Thr Asp Pro Val	Tyr Ala Glu Asp Gly	Ser Phe Asn
500	505	510
Tyr Ser Gly Lys Asp Asn Pro Val	Ala Ile Gln Asp Gln	Ser Gly Phe
515	520	525
Thr Arg Ser Thr Ala Gln Gln	Leu Asn Ala Thr Ala	Tyr Ala Gln Ile
530	535	540
Asn Ile Leu Pro Glu Leu Ser Val	Lys Gly Val Phe	Ser Leu Arg His
545	550	555
Asp Tyr Thr Asn Gln Glu Gly Phe	Lys Lys His Phe	Thr Tyr Gly Asn
565	570	575
Phe Asp Ser Gly Leu Arg Glu	Gly Tyr Asp Glu	Tyr Asn His Asn
580	585	590
Arg Tyr Thr Ser Gln Val Leu	Ala Asn Tyr Asn Lys	Thr Phe Gly Lys
595	600	605
His Ser Ile Ala Val Leu Gly	Gly Phe Glu Ser Phe	Glu His Ile Tyr
610	615	620
Lys Phe Thr Lys Ala Ser Arg	Lys Gly Gly Asn	Asn Glu Leu Thr
625	630	635
Glu Ser Leu Asn Thr Leu Lys	Lys	640
645		

<210> 9401

<211> 1140

<212> PRT

<213> B.fragilis

<400> 9401

Leu Ile Val Phe Met Lys Lys Cys Asn Leu Arg Trp Phe Ser Pro Gln
1 5 10 15

Lys Ile Lys Arg Gln Leu Ala Phe Val Leu Ala Ile Cys Leu Val Cys

20	25	30
Ile Val Pro Val Thr Thr Tyr Ala Gln Ile Leu Lys	Ile Ser Met Lys	
35	40	45
Arg Thr Asn Val Ser Ile Gln Asn Val Ile Arg Glu	Leu Glu Gln Lys	
50	55	60
Ser Gly Tyr Thr Phe Phe Tyr Asn Asp Asn Gln Val	Lys Leu Thr Lys	
65	70	75
Lys Val Ser Val Asp Val Thr Asp Ala Pro Ile Glu	Asn Val Leu Asp	
85	90	95
Gln Ile Phe Asn Asn Ser Gly Tyr Thr Lys Ile Ile	Asp Asn Gln	
100	105	110
Ile Val Val Ser Ala Ile Lys Ala Glu Ile Pro Lys	Thr Ser Ser Leu	
115	120	125
Gln Gln Gln Lys Ser Val Arg Ile Thr Gly Gln Val	Lys Asp Thr Thr	
130	135	140
Gly Glu Pro Ile Ile Gly Ala Ser Val Val Glu Lys	Gly Ser Ala Ser	
145	150	155
Asn Gly Thr Ile Thr Asp Val Gly Gly Asn Phe Lys	Leu Thr Val Ser	
165	170	175
Gly Asn Glu Ile Gln Ile Thr Tyr Ile Gly Tyr Ile	Pro Gln Thr Val	
180	185	190
Lys Ile His Pro Gly Val Thr Asp Tyr Ser Ile Thr	Met Lys Glu Asp	
195	200	205
Thr Lys Thr Leu Asp Glu Val Val Val Val Gly	Tyr Gly Thr Gln Lys	
210	215	220
Lys Val Asn Leu Thr Gly Ser Val Ala Ser Val Ser	Thr Asp Glu Ile	
225	230	235
Lys Asp Arg Val Gln Thr Asn Val Leu Ser Ala Val	Gln Gly Thr Val	
245	250	255
Pro Gly Val Thr Val Ile Ser Arg Pro Gly Gln Thr	Pro Ser Ile Asn	
260	265	270
Phe Arg Gly Arg Gly Asn Leu Gly Thr Ser Ser Pro	Leu Tyr Val Ile	
275	280	285
Asp Gly Ala Ile Ala Asp Ala Thr Phe Phe Ser Asn	Leu Asp Pro Asn	
290	295	300
Ser Ile Glu Ser Ile Ser Phe Leu Lys Asp Ala Ala	Ser Ser Ala Ile	
305	310	315
Tyr Gly Ser Arg Ala Ala Tyr Gly Val Val Leu Val	Thr Thr Lys Gln	
325	330	335
Gly Lys Ser Asp Lys Met Asn Val Ser Tyr Ser Gly	Tyr Val Gly Leu	
340	345	350
Ser Asn Pro Thr Tyr Lys Pro Glu Tyr Val Asn Ser	Thr Gln Tyr Ala	
355	360	365
Glu Leu Tyr Asn Glu Ala Leu Tyr Asn Tyr Asn Pro	Lys Gly Gly Lys	
370	375	380
Tyr Gln Gly Tyr Thr Glu Glu Ile Gly Tyr Phe Arg	Asp Gly Ser	
385	390	395
Lys Pro Asp Leu Tyr Pro Asn Thr Asp Trp Asn Asp	Leu Val Leu Asp	
405	410	415
Lys Asn Val Leu Thr Thr Gln His Ser Leu Asp Phe	Ser Gly Gly Thr	
420	425	430
Asp Lys Ile Arg Tyr Phe Ile Gly Leu Gly Tyr Val	Tyr Lys Asp Asn	
435	440	445
Met Ile Pro Gly Gln Asp Ser Gln Arg Tyr Asn Leu	Asn Thr Asn Leu	
450	455	460
Ser Ser Asp Ile Thr Lys Trp Leu Thr Val Lys Ala	Gly Val Lys Tyr	
465	470	475
Ile Arg Asn Asp Ser Asp Arg Asp Cys Gly Ala Pro	Ser Leu Ala Ser	
485	490	495

Phe Ser Met Val Pro Val Thr Phe Val Ala Lys Gln Ser Asn Gly Asp
 500 505 510
 Trp Gly Thr Val Asn Gly Gly Gln Thr Ala Thr Ser Asn Phe Ile Thr
 515 520 525
 Gly Asn Pro Leu Arg Ala Leu Ser Lys Lys Asp Trp Ser Lys Ser Lys
 530 535 540
 Ser Glu Asn Thr Met Tyr Asp Leu Gly Phe Asp Ile Lys Pro Val Lys
 545 550 555 560
 Gly Leu Ile Ile Ser Gly Gln Gly Val Phe Lys Gly Tyr Glu Tyr Lys
 565 570 575
 Ser Lys Ser Tyr Thr Ala Leu Gln Pro Asn Ala Ile Asn Tyr Phe Ser
 580 585 590
 Gly Glu Glu Ile Ala Gly Thr Gly Val Thr Lys Asn Lys Met Ser Met
 595 600 605
 Asp Trp Gln Ser Thr Asn Thr Met Leu Tyr Thr Ala Thr Ala Arg Tyr
 610 615 620
 Asp Trp Ser Asn Asp Lys His Ala Val Gly Ala Leu Val Gly Thr Ser
 625 630 635 640
 Tyr Glu His Tyr Lys Tyr Glu Arg Leu Ala Gly Ser Arg Glu Glu Phe
 645 650 655
 Pro Ser Asp Ala Leu Thr Asp Met Glu Ala Gly Ser Thr Ser Gly Ala
 660 665 670
 Gly Tyr Thr Asn Gly Ala Gly Ser Ser Glu Tyr Lys Met Leu Ser Tyr
 675 680 685
 Phe Ala Arg Val Asn Tyr Thr Leu Met Asp Arg Tyr Leu Phe Glu Val
 690 695 700
 Asn Met Arg Ala Asp Ala Ser Ser Arg Phe His Lys Asp His Arg Trp
 705 710 715 720
 Gly Tyr Phe Pro Ser Phe Ser Ala Gly Trp Arg Met Ser Glu Glu Ser
 725 730 735
 Phe Met Lys Asp Ile Glu Trp Ile Asn Asn Leu Lys Ile Arg Ala Ser
 740 745 750
 Tyr Gly Thr Leu Gly Asn Ile Asn Asn Val Gly Asn Tyr Asp Tyr Phe
 755 760 765
 Gln Asn Tyr Ser Ser Gly Asn His Tyr Ser Phe Ser Asp Ser Pro Val
 770 775 780
 Ile Gly Ile Gly Glu Ser Lys Pro Ala Asn Glu Thr Leu Gly Trp Glu
 785 790 795 800
 Lys Val Ala Leu Thr Asp Ile Gly Leu Asp Phe Asp Ile Phe Asn Gly
 805 810 815
 Leu Leu Gly Val Thr Ala Asp Tyr Tyr Ile Lys Asn Thr Ser Asp Ile
 820 825 830
 Leu Leu Gly Tyr Asn Val Pro Thr Glu Thr Gly Ile Thr Ala Ala Pro
 835 840 845
 Ser Gln Asn Ile Gly Lys Val Lys Asn Thr Gly Phe Glu Leu Ala Leu
 850 855 860
 Asn His Arg Asn Lys Ile Gly Ala Val Asn Tyr Ser Ile Gly Ala Asn
 865 870 875 880
 Ile Ala Thr Asn Lys Asn Lys Ile Thr Asn Leu Gly Gly Ser Asp Asn
 885 890 895
 Ile Ile Gln Thr Ser Ser Tyr Ile Val Lys Tyr Ile Leu Lys Lys Gly
 900 905 910
 Glu Ser Ile Gly Ser Phe Tyr Gly Phe Lys Thr Asp Gly Leu Tyr Thr
 915 920 925
 Gln Ala Asp Ile Asp Ala Gly His Tyr Tyr Thr Leu Ser Gly Val Val
 930 935 940
 Pro Asn Ala Gly Asp Ile Lys Phe Val Pro Gln Arg Asp Ile Glu Tyr
 945 950 955 960
 Lys Gln Glu Ile Thr Asp Glu Asp Arg Thr Ile Leu Gly Lys Asp Val

965	970	975
Pro Asp Phe Thr Tyr Gly Val Asn Leu Ser	Leu Gln Tyr Lys Gly Phe	
980	985	990
Glu Phe Ser Met Phe Gly Gln Gly Ile Ser	Gly Thr Lys Val Ala Phe	
995	1000	1005
Asp Val Tyr Gly Val His Pro Phe Tyr His	Gly Gln Asp Ser Pro Arg	
1010	1015	1020
Lys Tyr His Leu Lys Arg Trp Thr Glu Glu	Asn Pro Asn Pro His Ala	
1025	1030	1035
Ala Tyr Pro Arg Ile Tyr Ser Ala Ser Ser	Val His Thr Thr Tyr Asn	
1045	1050	1055
Arg Asn Phe Ser Asp Tyr His Leu Phe Asp	Ser Asp Tyr Phe Arg Phe	
1060	1065	1070
Lys Thr Leu Ser Leu Gly Tyr Thr Val Pro	Ser Ala Thr Val Lys Asn	
1075	1080	1085
Trp Gly Leu Gln Ser Leu Lys Val Tyr Val	Thr Gly Glu Asn Leu Phe	
1090	1095	1100
Thr Val Arg Ala Asp Lys Lys Met Glu Asp	Phe Asp Pro Glu Thr Ala	
1105	1110	1115
Gly Gly Val Ile Tyr Thr Leu Gly Thr Lys	Ser Val Ala Phe Gly Val	
1125	1130	1135
Asn Ile Ser Phe		
1140		

<210> 9402

<211> 591

<212> PRT

<213> B.fragilis

<400> 9402

Lys Ile Glu Phe Thr Met Lys Asn Asn Ile Arg Lys Ile Ala Leu Gly			
1	5	10	15
Leu Cys Leu Thr Gly Ala Leu Thr Ala Cys Asp Leu Asp Val Val Pro			
20	25	30	
Pro Ala Asp Ile Ala Ala Glu Asn Phe Trp Gln Thr Glu Lys Asp Ala			
35	40	45	
Trp Tyr Ala Leu Asn Thr Cys Tyr Ala Thr Leu Asp Gly Val Asp Ile			
50	55	60	
Trp Asp Glu Leu Cys Thr Asp Asn Ala His Ser His Lys Pro Trp Glu			
65	70	75	80
Gly Asn Phe Glu Met Val Gln Gln Asn Gly Ile Ser Thr Ala Asn Gly			
85	90	95	
Tyr Gly Ser Tyr Tyr Phe Gly Thr Val Arg Ile Val Asn Asn Phe Ile			
100	105	110	
Ala Asn Ile Asp Lys Cys Ala Val Ser Glu Glu Leu Lys Thr Arg Met			
115	120	125	
Lys Ala Glu Ala Arg Phe Phe Arg Ala Leu Ser Tyr Leu Asp Leu Thr			
130	135	140	
Thr Lys Phe Gly Lys Val Pro Val Ile Thr Glu Val Leu Ala Tyr Asp			
145	150	155	160
Ala Pro Asn Val Lys Arg Asp Glu Val Glu Thr Val Arg Lys Phe Ile			
165	170	175	
Leu Asp Glu Leu Ala Glu Ile Ala Glu Ile Leu Pro Asp Ser Tyr Asn			
180	185	190	
Gly Ser Tyr Leu Tyr Glu Thr Gly Arg Ile Thr Arg Ala Gly Ala Leu			
195	200	205	
Ala Leu Arg Ala Arg Ala Leu Tyr Phe Gly Asn Tyr Ala Glu Ala			
210	215	220	
Glu Ala Ser Ala Gly Lys Ile Ile Ser Glu Gly His His Ser Leu Phe			

225	230	235	240
Arg Val Ser Ser Leu Thr Thr Ala Gln Gln Lys Glu Ala Asp Glu Met			
245	250	255	
Asp Ala Tyr Ile Asp Tyr Ala Thr Lys Gly Ile Asp Lys Asp Lys Phe			
260	265	270	
Val Lys Gly Met Phe Ser Tyr Glu Ser Leu Trp His Lys Gly Asn Ala			
275	280	285	
Ser Pro Ala Asn Pro Glu Tyr Ile Val Thr Arg Glu Tyr Met Ala Asp			
290	295	300	
Ala Asn Asn Tyr Asp Trp Thr Arg Tyr Thr Phe Ile Pro Lys Ser			
305	310	315	320
Phe Ser Gln Tyr Asp Gly Tyr Cys Ser Tyr Glu Pro Met Gln Asp Leu			
325	330	335	
Ile Asp Ala Tyr Trp Asp Val Asp Gly Lys Thr Met Arg Asn Asp Ile			
340	345	350	
Thr Met Glu Gln Arg Lys Glu Arg Tyr Ala Glu Ile Trp Lys Asp Phe			
355	360	365	
Lys Asp Met Ser Gln Ser Gln Phe Ile Glu Lys Val Pro Gln Thr Asp			
370	375	380	
Ile Met Lys Tyr Asp Tyr Met Lys Glu Phe Arg Asn Arg Asp Ser Arg			
385	390	395	400
Leu Tyr Val Ser Met Met Phe Pro Phe Lys Gly Trp His Glu Thr Ile			
405	410	415	
Lys Gly Thr Phe Tyr Phe Arg Trp Asp Pro Asp Leu Ile Asn Lys Asp			
420	425	430	
Gly Asn Glu Ser Trp Thr Gly Tyr Phe Tyr Arg Lys Met Val Thr Leu			
435	440	445	
Asp Pro Tyr Asp Thr Trp Thr Ala Glu Glu Asp Tyr Pro Val Ile Arg			
450	455	460	
Tyr Ala Glu Val Leu Leu Thr Tyr Ala Glu Ala Arg Ile Gln Asn Ser			
465	470	475	480
Gly Trp Asp Thr Glu Val Gln Lys Ala Leu Asn Asp Leu Arg Asp Arg			
485	490	495	
Cys Gly Met Pro Asp Val Pro Thr Thr Met Pro Ser Lys Glu Glu Ala			
500	505	510	
Leu Ala Phe Val Arg Asn Glu Arg Arg Ile Glu Leu Ala Ala Glu Gly			
515	520	525	
His Arg Phe Asp Asp Ile Arg Arg Tyr Gly Asn Asp Tyr Cys Ser Lys			
530	535	540	
Ala Met Asn Gly Pro Ser Tyr Ala Pro Asn Gly Tyr Val Val Ile Asn			
545	550	555	560
Lys Val Trp Asp Asn Arg Leu Met Leu Met Pro Ile Pro Gln Gly Ala			
565	570	575	
Ile Asp Leu Asn Pro Leu Leu Lys Asp Asp Gln Asn Pro Gly Tyr			
580	585	590	

<210> 9403

<211> 169

<212> PRT

<213> B.fragilis

<400> 9403

Leu Gly Met Phe Asp Ile His Phe Val Thr His Asp Gln Leu Thr Glu			
1	5	10	15
Ile Ile Leu Leu Glu Val Ile Arg Leu Lys Ser Ser Ala Trp Asn Tyr			
20	25	30	
Ser Tyr Glu Asp Gln Val Ser Trp Ile Asn Thr His Ile Lys Asp Ser			
35	40	45	
Asp Leu His Cys Phe Leu Ser Glu Asp Gly Val Asn Val Gly Tyr Leu			

50	55	60													
Asn	Leu	Ile	Glu	Thr	Asn	Ile	Ile	Val	Asp	Asp	Leu	Ser	Tyr	Arg	Ala
65					70				75						80
Tyr	Gly	Val	Gly	Asn	Val	Cys	Ser	Ile	Val	Arg	Lys	Lys	Gly	Tyr	Gly
						85			90					95	
Ser	Ile	Leu	Leu	Asn	Tyr	Val	Asn	Asp	Phe	Ile	Val	Asn	Lys	Glu	Tyr
					100			105					110		
Ile	Gly	Val	Leu	Leu	Cys	Lys	Pro	Glu	Leu	Ser	His	Phe	Tyr	Asn	Lys
					115			120				125			
Ser	Gly	Trp	Lys	Leu	Val	Pro	Tyr	Leu	Lys	Leu	Leu	Cys	Glu	Phe	Ser
					130			135				140			
Leu	Thr	Asn	Ile	Glu	Met	Met	Thr	Tyr	Asn	Cys	Glu	Phe	Asn	Tyr	Lys
145					150					155				160	
Gln	Ile	Ile	Tyr	Lys	Gly	Gly	Pro	Phe							
					165										

<210> 9404

<211> 87

<212> PRT

<213> B.fragilis

<400> 9404

Asn	Val	Val	Pro	Leu	Pro	Asp	Leu	Leu	Arg	Val	Gln	Glu	Asn	Leu	Tyr
1					5				10					15	
Val	Val	Pro	Cys	Glu	Gln	Val	Arg	Arg	Cys	Cys	Asn	Phe	Tyr	Glu	Asp
					20				25				30		
Cys	Leu	Asn	Ala	Gly	Gly	Thr	Glu	Gln	Glu	Arg	Gly	Tyr	Gly	Arg	Ser
					35			40			45				
Ile	Leu	Lys	Asp	Phe	Ser	Asn	Asp	Ala	Gln	Ile	Lys	Ser	Leu	Gln	Ser
					50			55			60				
Asp	Gly	Tyr	Asn	Val	Tyr	Met	Tyr	Leu	Asp	Asp	Glu	Leu	Ile	Glu	Val
					65			70			75			80	
Pro	Pro	Cys	Pro	Cys	Ala	Glu									
					85										

<210> 9405

<211> 161

<212> PRT

<213> B.fragilis

<400> 9405

Val	Met	Asn	Thr	Leu	Thr	Ser	Gln	Ile	Glu	Gln	Leu	Gln	Ser	Leu	Ala
1					5				10					15	
His	Glu	Leu	Leu	Tyr	Leu	Gly	Val	Asp	Gly	Ala	Pro	Ile	Tyr	Thr	Asp
					20				25			30			
His	Phe	Arg	Gln	Leu	Asn	Lys	Glu	Val	Leu	Glu	Gln	Ser	Asp	Ala	Leu
					35			40			45				
Tyr	Pro	Gln	Arg	Gly	Ala	Thr	Ser	Glu	Glu	Glu	Ala	Asn	Ile	Cys	Leu
					50			55			60				
Ala	Leu	Leu	Met	Gly	Tyr	Asn	Ala	Thr	Ile	Tyr	Asn	Gln	Gly	Asp	Lys
					65			70			75			80	
Glu	Glu	Lys	Lys	Gln	Val	Val	Leu	Asn	Arg	Cys	Trp	Asp	Val	Leu	Asp
					85				90			95			
Gln	Leu	Pro	Ala	Thr	Leu	Leu	Lys	Cys	Gln	Leu	Leu	Thr	Tyr	Cys	Tyr
					100			105				110			
Gly	Glu	Val	Phe	Glu	Glu	Glu	Leu	Ala	Lys	Glu	Ala	His	Thr	Ile	Ile
					115			120				125			
Glu	Ser	Trp	Lys	Asp	Lys	Glu	Leu	Ser	Glu	Asp	Lys	Lys	Glu	Ala	Ile
					130			135			140				

Asn	Asn	Leu	Arg	Asn	Leu	Glu	Glu	Asn	Pro	Tyr	Pro	Tyr	Ser	Glu	Met
145					150					155					160
Glu															

<210> 9406

<211> 77

<212> PRT

<213> B.fragilis

<400> 9406

Leu	Pro	Leu	Thr	Lys	Glu	Ile	Asp	Glu	Val	His	Gln	Tyr	Pro	Asn	Val
1						5			10				15		
Lys	Leu	Met	Thr	Glu	Asp	Ser	Gln	Tyr	Lys	His	Glu	Thr	Tyr	Leu	Gln
						20			25				30		
Thr	Asp	Lys	Leu	Leu	Leu	Pro	Leu	Gln	Tyr	Ser	His	Tyr	Thr	Ile	Ser
						35			40				45		
Cys	Val	Ile	Leu	Ala	Leu	Lys	Tyr	Gln	Gln	Glu	Glu	Asp	Lys	Val	Ser
						50			55				60		
Leu	Lys	Val	Ser	Leu	Leu	Phe	Ile	Leu	Phe	Ile	Tyr	Thr			
						65			70				75		

<210> 9407

<211> 94

<212> PRT

<213> B.fragilis

<400> 9407

Leu	Ser	Arg	Thr	His	Ile	Leu	Ser	Val	Ile	Gly	Leu	Tyr	Leu	Gly	Cys
1						5			10				15		
Lys	Asn	Ser	Ile	Glu	Leu	Thr	Phe	Lys	Ser	Glu	Lys	Asp	Ile	Met	Arg
						20			25				30		
Cys	Ile	Asp	Thr	Val	Thr	Ile	Thr	Ile	Ser	Lys	Met	Glu	Ile	Asp	Leu
						35			40				45		
Pro	Lys	Ile	Glu	Ile	Val	Lys	Gln	Cys	Gly	Met	Ile	Ala	Ala	Asn	Thr
						50			55				60		
Val	Phe	Leu	Ile	Asn	Ser	Leu	Thr	Ser	Asn	Ile	Pro	Tyr	Met	Phe	Leu
						65			70				75		80
Asp	Arg	Leu	Arg	Gly	Val	Lys	Val	Thr	Trp	Asp	Lys	Ile	Lys		
						85							90		

<210> 9408

<211> 76

<212> PRT

<213> B.fragilis

<400> 9408

Ala	Thr	Asn	Ala	Leu	Arg	Ala	Ala	Gly	Asp	Val	Asn	Tyr	Pro	Phe	Tyr
1						5				10			15		
Val	Gly	Leu	Val	Val	Met	Trp	Ser	Val	Ala	Val	Gly	Ile	Gly	Tyr	Leu
						20			25				30		
Phe	Gly	Ile	Tyr	Trp	Ala	Trp	Gly	Ile	Cys	Gly	Met	Trp	Val	Ala	Phe
						35			40				45		
Ala	Leu	Asp	Glu	Asn	Ile	Arg	Gly	Ile	Ile	Phe	Val	Arg	Arg	Trp	Tyr
						50			55				60		
Gly	Met	Lys	Trp	Val	Asn	Lys	Ser	Phe	Val	Arg	Arg				
						65			70				75		

<210> 9409

<211> 85
<212> PRT
<213> B.fragilis

<400> 9409
Ala Glu Lys Ala Gly Thr Asn Leu Gln Pro Gln Gly Ile Tyr Lys Asp
1 5 10 15
Asn Glu Pro Glu Thr Leu Gly Val Ile Gln His Leu Arg Ile Asn Gly
20 25 30
Gln Ser Glu Val Pro Gly Gln Asn Ala Gly Lys Lys Asp Lys Gly Asn
35 40 45
Ala Lys Arg Asn Ala Thr Asn Met Asn Phe Ala Gln Ser Glu Pro Asn
50 55 60
Gly Gly Asn Gln Gly Lys Asn Asp Asn Cys Leu Gln Ser Arg Met Phe
65 70 75 80
Asp Lys Glu Thr Ile
85

<210> 9410
<211> 402
<212> PRT
<213> B.fragilis

<400> 9410
Ile Met Lys Ala Cys Phe Met Gly Leu Gly Tyr Ile Gly Leu Pro Thr
1 5 10 15
Ala Ile Ile Ala Ala Lys His Gly Ile Gln Ile Thr Gly Val Asp Ile
20 25 30
Asn Pro Lys Val Val Glu Met Thr Asn Leu Gly Lys Leu His Ile Ile
35 40 45
Glu Pro Gly Met Gln Ala Leu Leu Gln Glu Val Val Ser Ser Gly Trp
50 55 60
Leu Lys Ala Ser Thr Thr Pro Asp Val Ser Asp Ala Tyr Phe Val Val
65 70 75 80
Val Pro Thr Pro Phe Lys Gly Asn His Glu Pro Asp Ile Ser Tyr Val
85 90 95
Glu Thr Ala Thr Arg Ala Val Ile Pro Phe Leu Lys Glu Gly Asp Leu
100 105 110
Tyr Val Ile Glu Ser Thr Ser Pro Val Gly Thr Thr Asp Lys Met Ala
115 120 125
Asp Leu Ile Phe Asp Leu Arg Pro Glu Leu Lys Asp Lys Leu Tyr Ile
130 135 140
Ala Tyr Cys Pro Glu Arg Val Leu Pro Gly Asn Val Ile Tyr Glu Leu
145 150 155 160
Val His Asn Asp Arg Val Ile Gly Gly Ile Asn Glu Ala Ser Thr Asp
165 170 175
Lys Ala Ile Glu Phe Tyr Ser His Phe Val Gln Gly Thr Leu His Arg
180 185 190
Thr Asn Cys Lys Thr Ala Glu Met Cys Lys Leu Thr Glu Asn Ser Ser
195 200 205
Arg Asp Val Gln Ile Ala Phe Ala Asn Glu Leu Ser Leu Ile Cys Asp
210 215 220
Lys Ala Gly Ile Asn Val Trp Glu Leu Ile Ser Leu Ala Asn Lys His
225 230 235 240
Pro Arg Val Asn Ile Leu Gln Pro Gly Cys Gly Val Gly Gly His Cys
245 250 255
Ile Ala Val Asp Pro Tyr Phe Ile Thr Ser Asn Phe Pro Met Glu Ser
260 265 270
Lys Ile Ile Ser Thr Ala Arg Glu Ile Asn Asn Tyr Lys Ala Phe Trp

275	280	285
Cys Ala Glu Lys Val Gln Asn	Ser Met Leu Lys Phe	Glu Leu Glu His
290	295	300
His Arg Arg Pro Ala Ile Ala Met Met Gly	Leu Ala Phe Lys Pro	Asp
305	310	315
Ile Asp Asp Leu Arg Glu Ala Pro Ala Lys	Tyr Ile Thr Thr Lys	Val
325	330	335
Met Gln Ser Cys Asn Asn Ala Asp	Ile Met Val Val Glu	Pro Asn Val
340	345	350
Gln Glu His Asn Val Phe Lys	Leu Thr Asp Tyr Lys	Glu Ala Tyr Thr
355	360	365
Lys Ala Asp Ile Val Val Phe	Leu Val Ala His	Thr Ser Phe Lys Ser
370	375	380
Leu Pro Tyr Asp Glu Thr Lys Val	Ile Leu Asp	Phe Cys Gly Ile Ser
385	390	395
Lys Arg		400

<210> 9411

<211> 431

<212> PRT

<213> B.fragilis

<400> 9411

Tyr Asp Met Ala Lys Ile Gln Ile Lys Ser Glu Lys Leu Thr Pro Phe		
1	5	10
Gly Gly Ile Phe Ser Ile Met Glu Lys Phe Asp Ser Met Leu Ser Pro		
20	25	30
Val Ile Asp Ser Thr Leu Gly Gln Arg Cys Ser Ser Ile Phe Gly Tyr		
35	40	45
Gln Phe Ser Glu Ile Val Arg Ser Leu Met Ser Val Tyr Phe Cys Gly		
50	55	60
Gly Ser Cys Val Glu Asp Val Thr Ser Gln Leu Met Arg His Leu Ser		
65	70	75
Tyr His Pro Thr Leu Arg Thr Cys Ser Ser Asp Thr Ile Leu Arg Ala		
85	90	95
Ile Lys Glu Leu Thr Gln Glu Asn Ile Ser Tyr Thr Ser Asp Gln Gly		
100	105	110
Lys Thr Tyr Asp Phe Asn Thr Ala Asp Lys Leu Asn Thr Leu Leu Ile		
115	120	125
Asn Ala Leu Val Ser Thr Gly Glu Leu Lys Glu Ile Glu Glu Tyr Asp		
130	135	140
Val Asp Phe Asp His Gln Phe Leu Glu Thr Glu Lys Tyr Asp Ala Lys		
145	150	155
Pro Thr Tyr Lys Phe Leu Gly Tyr Arg Pro Gly Val Tyr Val Ile		
165	170	175
Gly Asp Lys Ile Val Tyr Ile Glu Asn Ser Asp Gly Asn Thr Asn Val		
180	185	190
Arg Phe His Gln Ala Asp Thr His Lys Arg Phe Phe Ala Leu Leu Glu		
195	200	205
Ser Gln Asn Ile Arg Val Asn Arg Phe Arg Ala Asp Cys Gly Ser Cys		
210	215	220
Ser Lys Glu Ile Val Ser Glu Ile Glu Lys His Cys Lys His Phe Tyr		
225	230	235
Ile Arg Ala Asn Arg Cys Ser Ser Leu Tyr Asn Asp Ile Phe Ala Leu		
245	250	255
Arg Gly Trp Lys Thr Glu Glu Ile Asn Gly Ile Gln Phe Glu Leu Asn		
260	265	270
Ser Ile Leu Val Glu Lys Trp Glu Gly Lys Cys Tyr Arg Leu Val Ile		

275	280	285
Gln Arg Gln Arg Arg Asn Ser Gly Asp Leu Asp Leu Trp Glu Gly Glu		
290	295	300
Tyr Thr Tyr Arg Cys Ile Leu Thr Asn Asp Tyr Lys Ser Ser Thr Arg		
305	310	315
Asp Ile Val Glu Phe Tyr Asn Leu Arg Gly Gly Lys Glu Arg Ile Phe		
325	330	335
Asp Asp Met Asn Asn Gly Phe Gly Trp Ser Arg Leu Pro Lys Ser Phe		
340	345	350
Met Ala Glu Asn Thr Val Phe Leu Leu Thr Ala Leu Ile His Asn		
355	360	365
Phe Tyr Lys Thr Ile Met Ser Arg Leu Asp Thr Lys Ala Phe Gly Leu		
370	375	380
Lys Lys Thr Ser Arg Ile Lys Ala Phe Val Phe Arg Phe Ile Ser Val		
385	390	395
Pro Ala Lys Trp Ile Met Thr Ala Arg Gln Tyr Val Leu Asn Ile Tyr		
405	410	415
Thr Glu Asn Arg Ala Tyr Ala Lys Pro Phe Lys Thr Glu Phe Gly		
420	425	430

<210> 9412

<211> 81

<212> PRT

<213> B.fragilis

<400> 9412

Ile Asn Ser Tyr Met Asn Asp Ile Phe Asp Glu Leu Val Ser Ser Asn		
1	5	10
Tyr Trp Asn Gly Lys Leu Pro Lys Val Glu Phe Ala Arg Lys Ser Tyr		
20	25	30
Thr Asn Arg Ile Phe Gly Tyr Val Gly Asn Arg Leu Val Lys Val Leu		
35	40	45
Thr Gly Gln Arg Gly Val Gly Lys Gly Cys Leu Leu Arg Gln Ile Ile		
50	55	60
Tyr Gln Leu Met Arg Trp Gly Val Ser Ser Arg Asp His Ser Ile Tyr		
65	70	75
Lys		80

<210> 9413

<211> 278

<212> PRT

<213> B.fragilis

<400> 9413

Pro Ile Asn Gln Gln His Asn Asn Leu Thr Ile Met Ala Thr Thr Tyr		
1	5	10
Asp Gly Ile Asn Tyr Phe Pro Ile Ala Val Asn Phe Met Glu Glu Asn		
20	25	30
Ala Met Glu Val Ile Glu Ala Lys Tyr Gly Met Lys Gly Leu Ala Ile		
35	40	45
Val Leu Lys Leu Leu Cys Lys Ile Tyr Lys Glu Gly Tyr Tyr Ile Pro		
50	55	60
Trp Gly Glu Glu Gln Cys Leu Ile Phe Ala Asn Lys Thr Gly Lys Glu		
65	70	75
Ala Asp Ala Glu Glu Val Gln Gly Ile Ile Glu Ile Met Ile Glu Lys		
85	90	95
Gly Met Ile Asp Arg Gly Ser Tyr Ala Glu His Lys Val Leu Thr Ser		
100	105	110

Glu Ala Ile Gln Lys Val Trp Ile Glu Ala Thr Lys Arg Arg Lys Arg
 115 120 125
 Asn Trp Thr Ala Met Pro Tyr Leu Leu Ile Lys Pro Lys Glu Thr Cys
 130 135 140
 Asn Glu Glu Lys Thr Val Cys Thr Gln Asn Val Glu Gln Asp Ala Gly
 145 150 155 160
 Ser Asp Ala Lys Asn Ala Cys Asn Thr Glu Gln Ser Lys Val Lys Gln
 165 170 175
 Ser Arg Glu Phe Pro Pro Ser Ala Pro Pro Arg Gly Lys Glu Glu Glu
 180 185 190
 Val Asn Ala Thr Pro Val Ser Met Pro Gly Tyr Ala Phe Asn Thr Met
 195 200 205
 Thr His Asn Tyr Val Gly Leu Met Gly Asn Leu Glu Arg Phe Gly Ile
 210 215 220
 Thr Asp Glu Lys Glu Ile Glu Ala Ile Leu Arg Leu Ser Asp Tyr Gly
 225 230 235 240
 Arg Lys Gly Thr Pro Val Trp Lys Leu Ile Cys Ser Thr Asn Trp Ser
 245 250 255
 Asn Ile Gly Ala Lys Gly Lys Tyr Met Ile Ala Ala Leu Asn Arg Ala
 260 265 270
 Lys Lys Arg Ser Gly Thr
 275

<210> 9414

<211> 174

<212> PRT

<213> B.fragilis

<400> 9414

Met Ser Glu Gln Gln Lys Tyr Trp Phe Ala Ala Arg Thr Arg Asp Lys
 1 5 10 15
 Gln Glu Phe Ala Ile Arg Asp Ser Leu Glu Lys Leu Lys Thr Glu Leu
 20 25 30
 Asp Leu Asn Tyr Tyr Leu Pro Thr Gln Phe Val Ile Arg Gln Leu Lys
 35 40 45
 Tyr Arg Arg Lys Arg Val Glu Val Pro Val Ile Lys Asn Leu Ile Phe
 50 55 60
 Ile Gln Ala Thr Lys Gln Asp Ala Cys Asp Ile Ser Asn Lys Tyr Asn
 65 70 75 80
 Ile Gln Leu Phe Phe Pro Lys Asp Leu Leu Thr Arg Ala Met Leu Ile
 85 90 95
 Val Pro Asp Lys Gln Met Gln Asp Phe Ile Phe Val Met Asp Leu Asp
 100 105 110
 Pro Asn Gly Val Ser Phe Asp Asn Asp His Leu Ser Val Gly Ser Arg
 115 120 125
 Val Gln Val Val Lys Gly Asp Phe Cys Gly Val Glu Gly Glu Leu Ala
 130 135 140
 Ser Glu Ala Asn Lys Thr Tyr Val Val Ile Arg Ile Ala Gly Val Leu
 145 150 155 160
 Ser Ala Ser Val Lys Val Pro Lys Ser Tyr Leu Arg Val Ile
 165 170

<210> 9415

<211> 565

<212> PRT

<213> B.fragilis

<400> 9415

Leu Tyr Leu His Asn Leu Ser Ser Asn Val Gln Lys Thr Met Glu Gln

1	5	10	15												
Ser	Phe	Ile	Ala	Tyr	Ile	Glu	Asn	Ser	Ile	Lys	Asn	Asn	Trp	Asp	Leu
		20			25				30						
Asp	Ala	Leu	Thr	Asp	Tyr	Lys	Gly	Ala	Thr	Leu	Gln	Tyr	Lys	Asp	Val
		35			40				45						
Ala	Arg	Lys	Ile	Glu	Lys	Leu	His	Ile	Ile	Phe	Glu	Glu	Ser	Gly	Ile
		50			55				60						
Arg	Lys	Gly	Asp	Lys	Ile	Ala	Val	Cys	Gly	Arg	Asn	Ser	Ser	His	Trp
		65			70			75		80					
Gly	Val	Thr	Phe	Leu	Ala	Thr	Leu	Thr	Tyr	Gly	Ala	Val	Ile	Val	Pro
		85			90				95						
Ile	Leu	His	Glu	Phe	Lys	Ala	Asp	Asn	Val	His	Asn	Ile	Val	Asn	His
		100			105				110						
Ser	Glu	Ala	Lys	Leu	Leu	Phe	Val	Gly	Asp	Val	Val	Trp	Glu	Asn	Leu
		115			120				125						
Asn	Glu	Ser	Ala	Met	Pro	Leu	Leu	Glu	Gly	Ile	Leu	Met	Met	Asn	Asp
		130			135				140						
Phe	Thr	Leu	Leu	Val	Ser	Arg	Ser	Glu	Arg	Leu	Thr	His	Ala	Arg	Glu
		145			150				155						160
His	Leu	Asn	Glu	Met	Phe	Gly	Lys	Lys	Phe	Pro	Lys	Asn	Phe	Arg	Lys
		165			170				175						
Glu	His	Ile	Glu	Tyr	His	Lys	Asp	Gln	Pro	Glu	Glu	Leu	Ala	Val	Ile
		180			185				190						
Asn	Tyr	Thr	Ser	Gly	Thr	Thr	Ser	Tyr	Ser	Lys	Gly	Val	Met	Leu	Pro
		195			200				205						
Tyr	Arg	Ser	Leu	Trp	Ser	Asn	Thr	Ala	Phe	Ala	Phe	Glu	Val	Leu	Pro
		210			215				220						
Leu	Lys	Ala	Gly	Asp	Lys	Ile	Val	Ser	Met	Leu	Pro	Met	Ala	His	Met
		225			230				235						240
Tyr	Gly	Leu	Ala	Phe	Glu	Phe	Leu	Tyr	Glu	Phe	Ala	Val	Gly	Cys	Gln
		245			250				255						
Ile	Tyr	Phe	Leu	Thr	Arg	Met	Pro	Ser	Pro	Lys	Ile	Ile	Phe	Gln	Ala
		260			265				270						
Phe	Ala	Asp	Val	Lys	Pro	Asn	Leu	Ile	Val	Ala	Val	Pro	Leu	Ile	Ile
		275			280				285						
Glu	Lys	Ile	Ile	Lys	Lys	Ser	Val	Leu	Pro	Lys	Leu	Glu	Thr	Pro	Thr
		290			295				300						
Met	Lys	Leu	Leu	Leu	Lys	Val	Pro	Ile	Ile	Asn	Asp	Lys	Ile	Lys	Ala
		305			310				315						320
Thr	Val	Arg	Glu	Glu	Met	Ile	Lys	Gly	Phe	Gly	Gly	Asn	Phe	Glu	Ala
		325			330				335						
Val	Ile	Val	Gly	Gly	Ala	Ala	Phe	Asn	Gln	Glu	Val	Glu	Gln	Phe	Leu
		340			345				350						
Arg	Met	Ile	Asp	Phe	Pro	Tyr	Thr	Val	Gly	Tyr	Gly	Met	Thr	Glu	Cys
		355			360				365						
Gly	Pro	Ile	Ile	Cys	Tyr	Glu	Asp	Trp	Lys	Arg	Phe	Lys	Pro	Gly	Ser
		370			375				380						
Cys	Gly	Lys	Ala	Ala	Leu	Asn	Met	Glu	Val	Lys	Val	Leu	Ser	Pro	Asp
		385			390				395						400
Pro	Glu	Asn	Val	Val	Gly	Glu	Ile	Val	Cys	Lys	Gly	Pro	Asn	Val	Met
		405			410				415						
Leu	Gly	Tyr	Tyr	Lys	Asn	Glu	Glu	Ala	Thr	Ala	Gln	Val	Ile	Asp	Lys
		420			425				430						
Asp	Gly	Trp	Leu	His	Thr	Gly	Asp	Leu	Ala	Leu	Glu	Asp	Ala	Glu	Gly
		435			440				445						
Asn	Ile	Thr	Ile	Lys	Gly	Arg	Ser	Lys	Asn	Met	Leu	Leu	Ser	Ala	Ser
		450			455				460						
Gly	Gln	Asn	Ile	Tyr	Pro	Glu	Glu	Ile	Glu	Asp	Lys	Leu	Asn	Asn	Leu
		465			470				475						480

Pro Tyr Val Ala Glu Ser Ile Ile Val Gln Gln Asn Asp Lys Leu Val
 485 490 495
 Gly Leu Val Tyr Pro Asp Phe Asp Glu Ala Phe Ala His Gly Leu Lys
 500 505 510
 Asn Glu Asp Met Glu Arg Val Met Glu Glu Asn Arg Val Thr Leu Asn
 515 520 525
 Glu Met Leu Pro Ala Tyr Ser Gln Ile Ser Lys Met Lys Ile Tyr Pro
 530 535 540
 Glu Glu Phe Glu Lys Thr Pro Lys Lys Ser Ile Lys Arg Phe Leu Tyr
 545 550 555 560
 Gln Glu Ala Lys Gly
 565

<210> 9416

<211> 72

<212> PRT

<213> B.fragilis

<400> 9416

Leu Ser Leu Gln His Cys Pro Val Val Thr Ala Glu Gly His Val Leu
 1 5 10 15
 Ile Phe Asp Asn Gly Tyr Gly Cys Asn Phe Ser Gly Ser Asn Arg His
 20 25 30
 Ser Arg Gly Glu Tyr Lys Ile Val Gly Leu Asp Val Glu Gln Ile Trp
 35 40 45
 Glu Tyr Gly Lys Glu Arg Gly Glu Asp Phe Phe Ser Pro Ile Thr Ser
 50 55 60
 Glu Val Gln Tyr Ile Glu Glu Ser
 65 70

<210> 9417

<211> 103

<212> PRT

<213> B.fragilis

<400> 9417

Gln Cys Ser Gln Val Tyr Tyr Asp Ala Tyr Ser Lys Cys Val Ala Val
 1 5 10 15
 Leu Ser Leu Ser Cys Phe Ala Gly Gly Glu Asn Ser Phe Val Ser Leu
 20 25 30
 Glu Gly Met Asn Val Ala Ala His Lys Gly Gly Tyr Gly Gln Ser Ser
 35 40 45
 Ile Phe Arg Asp Gly Gly Arg Lys Ser Gly Gly Leu Met Arg Val Gly
 50 55 60
 Ser Phe Arg Ala Pro Asn Gly Trp Gly Glu Tyr Ala Asn Glu Lys Asn
 65 70 75 80
 Gln Ala Arg Ala Lys Leu Val Ile Phe Pro Thr Asn Tyr Ile Asp Lys
 85 90 95
 Asp Ser Lys Lys Ser Asn Arg
 100

<210> 9418

<211> 83

<212> PRT

<213> B.fragilis

<400> 9418

Val Pro Glu Gln Gln Lys Val Ala Gln Asp Phe Ala Met Ser Glu Phe
 1 5 10 15

Ser Leu Ile Leu Val Leu Gln Lys Glu Asn Lys Gln Asn Ser Asn Met
 20 25 30
 Thr Trp Gln Lys Tyr Lys Leu Asn Leu Arg Asn Ser His Leu Leu Glu
 35 40 45
 Glu Phe Phe Gln Ser Trp Arg Asn Leu Thr Pro Cys Phe His Pro Leu
 50 55 60
 Ser Thr Gln His Trp Val Arg Asp Ala Ala Val Ser Ser Asp Ile Ser
 65 70 75 80
 Ser Ala Arg

<210> 9419

<211> 114

<212> PRT

<213> B.fragilis

<400> 9419

Phe Arg Trp His Ile Arg Val Asn Leu Tyr Gly Tyr Arg Leu Val Gly
 1 5 10 15
 Arg Phe Phe Pro Val Tyr Ser Gly Ser Gly Cys Lys Gly Val Thr Tyr
 20 25 30
 Lys Lys Asp Ile Val Asp Asp Leu Ile Glu His Lys Cys Asp Cys Ser
 35 40 45
 Lys Leu Pro Ala Gly Thr Val Ile Leu Lys Val Met Lys Arg Gln Asn
 50 55 60
 Leu Pro Ile Trp Val Asp Lys Gly Thr Val Gln Leu Asn Lys Leu Ile
 65 70 75 80
 Pro Ala Leu Lys Gly Ile Ala Leu Glu Leu Gly Ser Asn Val His Val
 85 90 95
 Asp Glu Thr Trp Cys Arg Tyr Arg Thr Cys Phe Glu Tyr Lys Lys Ile
 100 105 110
 Tyr Met

<210> 9420

<211> 129

<212> PRT

<213> B.fragilis

<400> 9420

Lys Pro Asp Asn Asn Ser Leu Ile Asn Leu Lys Lys Ser Ile Met Lys
 1 5 10 15
 Lys Asn Arg Lys Ala Val Ser Lys Asn Glu Met Met Lys Gly Lys Trp
 20 25 30
 Lys Arg Gln Ile Met Leu Glu Lys Asp Tyr Thr Glu Gln Cys Ser Glu
 35 40 45
 Trp Met Ala Glu Arg Leu Glu Ala Leu Ile Glu Tyr Met Gln Tyr Gly
 50 55 60
 His Ala Ala Val Ala Tyr Met Lys Gln Asp Gly Thr Phe Lys Leu Val
 65 70 75 80
 Lys Gly Thr Leu Val Gly Tyr Glu Lys Asp Phe Gly Lys Gln Tyr Asp
 85 90 95
 Pro Met Glu Ile Lys Asn Thr Val Val Tyr Arg Asp Val Glu Gln Gln
 100 105 110
 Arg Trp Met Thr Phe Lys Ile Glu Asn Phe Met Glu Trp Arg Ala Ile
 115 120 125
 Val

<210> 9421
<211> 364
<212> PRT
<213> B.fragilis

<400> 9421

Leu	Arg	Leu	Asn	Met	Ile	Asp	Arg	Met	Asp	Lys	Asn	Ala	Lys	Ile	Tyr
1				5				10					15		
Val	Ala	Gly	His	His	Gly	Leu	Val	Gly	Ser	Ala	Ile	Trp	Lys	Asn	Leu
						20		25					30		
Gln	Glu	Lys	Gly	Tyr	Thr	Asn	Leu	Val	Gly	Arg	Thr	His	Lys	Glu	Leu
						35		40				45			
Asp	Leu	Leu	Asp	Gly	Ala	Ala	Val	Lys	Gln	Phe	Phe	Asp	Glu	Glu	Met
							50		55			60			
Pro	Glu	Tyr	Val	Phe	Leu	Ala	Ala	Phe	Val	Gly	Gly	Ile	Met	Ala	
65								70		75			80		
Asn	Ser	Ile	Tyr	Arg	Ala	Asp	Phe	Ile	Tyr	Lys	Asn	Leu	Gln	Ile	Gln
								85		90			95		
Gln	Asn	Val	Ile	Gly	Glu	Ser	Phe	Arg	His	Gln	Val	Lys	Lys	Leu	Leu
								100		105			110		
Phe	Leu	Gly	Ser	Thr	Cys	Ile	Tyr	Pro	Arg	Asp	Ala	Glu	Gln	Pro	Met
							115		120			125			
Lys	Glu	Asp	Val	Leu	Leu	Thr	Ser	Pro	Leu	Glu	Tyr	Thr	Asn	Glu	Pro
							130		135			140			
Tyr	Ala	Ile	Ala	Lys	Ile	Ala	Gly	Leu	Lys	Met	Cys	Glu	Ser	Phe	Asn
145							150			155			160		
Leu	Gln	Tyr	Gly	Thr	Asn	Tyr	Ile	Ala	Val	Met	Pro	Thr	Asn	Leu	Tyr
							165		170			175			
Gly	Pro	Asn	Asp	Asn	Phe	Asp	Leu	Glu	Arg	Ser	His	Val	Leu	Pro	Ala
							180		185			190			
Met	Ile	Arg	Lys	Ile	His	Leu	Ala	His	Cys	Leu	Lys	Lys	Gly	Asp	Trp
							195		200			205			
Glu	Ala	Val	Arg	Lys	Asp	Met	Asn	Leu	Arg	Pro	Val	Glu	Gly	Ile	Ser
							210		215			220			
Gly	Ala	Asn	Ser	Asn	Glu	Glu	Ile	Leu	Arg	Ile	Leu	Arg	Lys	Tyr	Gly
							225		230			235			240
Ile	Thr	Glu	Thr	Glu	Val	Thr	Leu	Trp	Gly	Thr	Gly	Thr	Pro	Leu	Arg
							245		250			255			
Glu	Phe	Leu	Trp	Ser	Glu	Glu	Met	Ala	Asp	Ala	Ser	Val	Phe	Val	Met
							260		265			270			
Glu	His	Val	Asp	Phe	Lys	Asp	Thr	Tyr	Lys	Ala	Gly	Ala	Lys	Asp	Ile
							275		280			285			
Arg	Asn	Cys	His	Ile	Asn	Ile	Gly	Thr	Gly	Lys	Glu	Ile	Thr	Ile	Arg
							290		295			300			
Glu	Leu	Ala	Gly	Leu	Ile	Val	Asn	Thr	Val	Gly	Tyr	Gln	Gly	Lys	Leu
							305		310			315			320
Thr	Phe	Asp	Ser	Ser	Lys	Pro	Asp	Gly	Thr	Met	Arg	Lys	Leu	Thr	Asp
							325		330			335			
Pro	Ser	Lys	Leu	His	Asn	Leu	Gly	Trp	His	His	Lys	Ile	Asp	Ile	Glu
							340		345			350			
Glu	Gly	Val	Gln	Arg	Met	Tyr	Glu	Trp	Tyr	Leu	Gly				
							355		360						

<210> 9422
<211> 386
<212> PRT
<213> B.fragilis

<400> 9422

Leu Met Lys Lys Ile Ile Leu Val Ala Ala Leu Leu Ser Ala Ala Val
 1 5 10 15
 Cys Leu Pro Ala Gln Asn Lys Gly Gly Asn Lys Ser Gly Gly Ile Asn
 20 25 30
 Leu Ser Leu Trp Lys Lys Ala Cys Thr Gln Pro Leu Asp Ser Thr Gln
 35 40 45
 Thr Thr Tyr Val Asn Leu Gly Leu Phe Ser Ala Met His Lys Leu His
 50 55 60
 Gly Val Gly Phe Asn Ala Phe Gly Ser Met Val Gln Asn Asn Met Asn
 65 70 75 80
 Gly Val Gln Ile Ser Gly Leu Ala Asn Leu Ala Gly Gly Ser Met His
 85 90 95
 Gly Val Gln Ile Gly Gly Ile Ser Asn Val Asn Gly Asn Asn Leu Ala
 100 105 110
 Gly Leu Ser Val Ser Gly Leu Val Asn Ile Thr Gly Asn Lys Ala Lys
 115 120 125
 Gly Val Leu Ile Thr Gly Leu Ser Asn Ile Ala Gly Asp Asn Met Arg
 130 135 140
 Gly Leu Met Met Ser Gly Ile Met Asn Ile Thr Gly Asp Lys Ala Ala
 145 150 155 160
 Gly Val Gln Leu Ala Gly Leu Ala Asn Val Thr Gly Glu Glu Tyr Asp
 165 170 175
 Gly Leu Met Met Ser Gly Leu Leu Asn Val Val Gly Glu Glu Met Asn
 180 185 190
 Gly Leu Gln Leu Ser Gly Leu Ala Asn Val Thr Gly Gly Gln Met Asn
 195 200 205
 Gly Val Gln Leu Gly Leu Phe Asn Phe Ala Ser Lys Ala Lys Gly Leu
 210 215 220
 Gln Ile Gly Leu Phe Asn Tyr His Lys Glu Asp Met Lys Gly Leu Gln
 225 230 235 240
 Leu Gly Leu Val Asn Ala Asn Pro Gln Thr Lys Val Gln Leu Met Val
 245 250 255
 Phe Gly Gly Asn Ser Thr Lys Ile Asn Val Gly Ala Arg Phe Lys Asn
 260 265 270
 Lys Leu Phe Tyr Thr Ile Leu Gly Gly Thr His Tyr Leu Asp Phe
 275 280 285
 Asp Asp Lys Phe Ser Ala Ala Leu Phe Tyr Arg Ala Gly Leu Glu Leu
 290 295 300
 Pro Leu Tyr Arg Asn Leu Phe Val Ser Gly Asp Leu Arg Tyr Gln His
 305 310 315 320
 Ile Glu Thr Phe Arg Asn Lys Lys Val Glu Gly Ile Pro Ala Arg Leu
 325 330 335
 Tyr Ala Leu Gln Ala Arg Leu Asn Leu Glu Tyr Arg Phe Thr Asp Lys
 340 345 350
 Phe Gly Leu Phe Val Thr Gly Gly Tyr Gly Ser Arg Tyr Tyr Asn
 355 360 365
 Lys Ala Arg Thr Tyr Asp Lys Gly Val Ile Ala Glu Ala Gly Val Val
 370 375 380
 Leu Phe
 385

<210> 9423

<211> 83

<212> PRT

<213> B.fragilis

<400> 9423

His Val Asp Leu Phe Ser Ile Arg Leu Tyr Leu Cys Cys Thr Phe Lys
 1 5 10 15

Asn Asn Phe Met Tyr Ser Ser Ser Asp Phe Glu Lys Tyr Asn Phe Ser
 20 25 30
 Thr Arg Gln Arg Val Asn Pro Lys Gly Ile Ser Ile Asn Ser Phe Cys
 35 40 45
 Leu Ile Gln Gly Val Leu Tyr Arg Asn Phe Asn Thr Trp Phe Val Lys
 50 55 60
 Thr Arg Lys Arg Ile Val Pro Val Gln Ile Glu Gly Phe Leu Phe Leu
 65 70 75 80
 Ile Ser Leu

<210> 9424

<211> 69

<212> PRT

<213> B.fragilis

<400> 9424

Arg Cys Arg Leu Ala His Val Arg Asn Lys Phe Lys Asp Ala Tyr Asn
 1 5 10 15
 Gln Gly Tyr Arg Lys Ala Arg Phe Phe Leu Glu Gln Val Ala Lys Leu
 20 25 30
 Tyr Lys His Glu Asp Asp Tyr Arg Arg Asp Asn Leu Leu Ala Thr Glu
 35 40 45
 Thr Lys Glu Lys Cys Asn Asp Ile Tyr Ile Asn Gly Ile Val Asp Ala
 50 55 60
 Leu Cys Asp Gly Leu
 65

<210> 9425

<211> 63

<212> PRT

<213> B.fragilis

<400> 9425

Ser Arg Leu Leu Val Ser Gly Ala Leu Lys Tyr Asp Leu Asn Tyr Thr
 1 5 10 15
 Asp Ser Leu Asn Asn Ser Val Phe Pro Asn Thr Asn Phe Val Ser Thr
 20 25 30
 Arg Ile Ile Glu Val Asp Ser Lys Asn Asn Val Ser Phe Glu Met Leu
 35 40 45
 Tyr Lys Ser Gln Lys Met Asp Met Thr Phe Arg Met Gln Lys Met
 50 55 60

<210> 9426

<211> 390

<212> PRT

<213> B.fragilis

<400> 9426

Ile Leu Phe Cys Phe Met Lys Lys Val Val Leu Val Phe Gly Thr Arg
 1 5 10 15
 Pro Glu Ala Ile Lys Met Ala Pro Ile Val Lys Glu Phe Gln Lys His
 20 25 30
 Pro Asp Glu Phe Lys Thr Ile Val Cys Val Thr Gly Gln His Arg Glu
 35 40 45
 Met Leu Asp Gln Val Leu Asn Ile Phe Glu Ile Thr Pro Asp Tyr Asp
 50 55 60
 Leu Asn Ile Met Lys Gln Gly Gln Asp Leu Tyr Asp Ile Thr Ser Arg
 65 70 75 80

Val Leu Thr Gly Met Arg Asp Val Leu Arg Glu Ser Gln Pro Asp Ile
 85 90 95
 Val Leu Val His Gly Asp Thr Thr Ser Met Ala Ser Ala Leu Ala
 100 105 110
 Ala Phe Tyr Gln Gln Ile Pro Val Gly His Ile Glu Ala Gly Leu Arg
 115 120 125
 Thr His Asn Ile Tyr Ser Pro Trp Pro Glu Glu Met Asn Arg Gln Ile
 130 135 140
 Thr Ser Arg Ile Thr Thr Cys His Phe Ser Pro Thr Leu Leu Ser Lys
 145 150 155 160
 Gln Asn Leu Leu Asp Glu Gly Ile Arg Glu Ser Ser Ile Thr Val Thr
 165 170 175
 Gly Asn Thr Val Ile Asp Ala Leu Tyr Met Val Val Asp Lys Ile Lys
 180 185 190
 Asn Asn Lys Glu Leu Asn Lys Glu Leu Glu Ser Ile Leu Lys Gln Thr
 195 200 205
 Gly Tyr Asp Ile Asn Arg Leu Gln Asn Gly Arg Lys Leu Ile Leu Ile
 210 215 220
 Thr Gly His Arg Arg Glu Asn Phe Gly Asn Gly Phe Ile Ser Met Cys
 225 230 235 240
 Lys Ala Ile Asn Thr Leu Lys Lys Tyr Pro Asp Val Asp Phe Val
 245 250 255
 Tyr Pro Met His Leu Asn Pro Asn Val Arg Lys Pro Ile His Glu Ile
 260 265 270
 Phe Gly Asp Asn Leu Ser Asn His Asn Asn Leu Phe Phe Ile Glu Pro
 275 280 285
 Leu Glu Tyr Leu Ser Phe Val Tyr Leu Met Glu Lys Ser Thr Ile Val
 290 295 300
 Leu Thr Asp Ser Gly Gly Ile Gln Glu Glu Ala Pro Gly Leu Gly Lys
 305 310 315 320
 Pro Val Leu Val Met Arg Asp Thr Thr Glu Arg Pro Glu Ala Leu Glu
 325 330 335
 Ala Gly Thr Val Lys Leu Val Gly Thr Asn Tyr Asp Lys Ile Val Asp
 340 345 350
 Gly Ile Ser Thr Leu Leu Asp Asp Lys Val Tyr Tyr Glu Glu Met Ser
 355 360 365
 Lys Ser Val Asn Pro Tyr Gly Asp Gly Lys Ala Ser Glu Arg Ile Val
 370 375 380
 Asn Asn Ile Asn Tyr Val
 385 390

<210> 9427

<211> 673

<212> PRT

<213> B.fragilis

<400> 9427

Ile Val Asn Arg Lys Ile Val Asn His Met Thr Ala Gln Ser Asn Ile
 1 5 10 15
 Thr Pro Glu Ser Ile Val Ala Asp Leu Arg Tyr Leu Gln Leu Leu Ser
 20 25 30
 Arg Ser Phe Pro Thr Ile Ala Ala Ser Thr Glu Ile Ile Asn Leu
 35 40 45
 Glu Ala Ile Leu Asn Leu Pro Lys Gly Thr Glu His Phe Leu Thr Asp
 50 55 60
 Ile His Gly Glu Tyr Glu Ala Phe Gln His Val Leu Lys Asn Ala Ser
 65 70 75 80
 Gly Ala Val Lys Arg Lys Val Asn Glu Ile Phe Gly His Thr Leu Arg
 85 90 95

Glu Ile Glu Lys Lys Glu Leu Cys Thr Leu Ile Tyr Tyr Pro Glu Glu
 100 105 110
 Lys Leu Gln Leu Ile Lys Ala Thr Glu Thr Asp Ile Asp Asp Trp Tyr
 115 120 125
 Leu Ile Thr Leu Asn Gln Leu Val Lys Val Cys Gln Asn Val Ser Ser
 130 135 140
 Lys Tyr Thr Arg Ser Lys Val Arg Lys Ser Leu Pro Ala Glu Phe Ser
 145 150 155 160
 Tyr Ile Ile Gln Glu Leu Leu His Glu Ser Thr Ile Glu Pro Asn Lys
 165 170 175
 His Ala Tyr Ile Asn Val Ile Ile Ser Thr Ile Ile Ser Thr Arg Arg
 180 185 190
 Ala Asp Asp Phe Ile Ile Ala Met Cys Asn Leu Ile Gln Arg Leu Thr
 195 200 205
 Ile Asp Ser Leu His Ile Val Gly Asp Ile Tyr Asp Arg Gly Pro Gly
 210 215 220
 Ala His Ile Ile Met Asp Thr Leu Cys Asp Tyr His Asn Phe Asp Ile
 225 230 235 240
 Gln Trp Gly Asn His Asp Ile Leu Trp Met Gly Ala Ala Ser Gly Asn
 245 250 255
 Glu Ala Cys Met Ala Asn Val Ile Arg Leu Ser Met Arg Tyr Gly Asn
 260 265 270
 Leu Gly Thr Leu Glu Asp Gly Tyr Gly Ile Asn Leu Leu Pro Leu Ala
 275 280 285
 Thr Phe Ala Met Asp Thr Tyr Ala Asp Asp Pro Cys Thr Ile Phe Ala
 290 295 300
 Pro Lys Thr Asn Phe Ala Asp Ser Thr Tyr Asn Glu Lys Thr Leu Arg
 305 310 315 320
 Leu Ile Thr Gln Met His Lys Ala Ile Thr Ile Ile Gln Phe Lys Leu
 325 330 335
 Glu Ala Asn Ile Ile Asn Arg Arg Pro Glu Phe Gly Met Gly Gly Arg
 340 345 350
 Lys Leu Leu Glu Lys Ile Asp Phe Glu Arg Gly Val Phe Val Tyr Glu
 355 360 365
 Gly Lys Glu Tyr Pro Leu Arg Asp Thr Asn Phe Pro Thr Val Asp Pro
 370 375 380
 Ala Asp Pro Tyr Arg Leu Thr Asp Glu Glu Gln Glu Leu Ile Glu Lys
 385 390 395 400
 Ile His Tyr Ser Phe Met Asn Ser Glu Lys Leu Lys Lys His Met Arg
 405 410 415
 Cys Leu Phe Thr Tyr Gly Gly Met Tyr Leu Val Cys Asn Ser Asn Leu
 420 425 430
 Leu Tyr His Ala Ser Val Pro Leu Asn Glu Asp Gly Ser Phe Lys His
 435 440 445
 Val Asn Ile Cys Gly Lys Glu Tyr Trp Gly Lys Asn Leu Leu Asp Lys
 450 455 460
 Ile Asp Gln Leu Ile Arg Thr Ala Tyr Phe Asp Glu Asp Asp Glu Glu
 465 470 475 480
 Glu Lys Arg Phe Ala Met Asp Tyr Ile Trp Tyr Leu Trp Cys Gly Pro
 485 490 495
 Asp Ala Pro Ser Phe Asp Lys Asp Lys Met Ala Thr Phe Glu Arg Tyr
 500 505 510
 Phe Ile Ala Asp Lys Ser Leu His Lys Glu Thr Lys Gly Tyr Tyr Tyr
 515 520 525
 Ala Leu Arg Asn Lys Glu Glu Ile Cys Asp Arg Ile Leu Glu Glu Phe
 530 535 540
 Gly Val Thr Gly Gln His Thr His Ile Ile Asn Gly His Val Pro Val
 545 550 555 560
 Lys Thr Ile Lys Gly Glu Gln Pro Met Lys Ala Gly Gly Lys Leu Leu

565	570	575
Val Ile Asp Gly	Gly Phe Ser Lys Ala	Tyr Gln Pro Glu Thr Gly Ile
580	585	590
Ala Gly Tyr Thr Leu Val	Tyr His Ser His Gly Leu Gln Leu Val Gln	
595	600	605
His Asp Pro Phe Gln Ser	Thr Gln Lys Ala Ile Glu Glu Gly Gln Asp	
610	615	620
Ile Lys Ser Thr Thr	Phe Val Ile Glu Phe Asn Ser Gln Arg Met Met	
625	630	635
Val Lys Asp Thr Asp Lys Gly Lys Glu Leu Val	Thr Gln Ile Leu Asp	
645	650	655
Leu Lys Leu Leu Val Ala Tyr Arg Ile Gly Leu Ile Lys Glu Lys		
660	665	670
Val		

<210> 9428
<211> 133
<212> PRT
<213> B.fragilis

<400> 9428		
Val Asn Lys Leu Leu Lys Asn Trp Ser	Tyr Leu Leu Leu Ser Asp Ile	
1 5	10	15
Ser Gln Ser Val Ile Asn Phe Phe Val	Phe Met Leu Leu Ala Arg Lys	
20 25	30	
Leu Thr Pro Val Gly Tyr Gly	Glu Phe Asn Val Ile Leu Ala Ile Val	
35 40	45	
Ala Ile Phe Ser Val Val Ala Thr Asn Leu Gly	Ala Asn His Val Ile	
50 55	60	
Thr Arg Glu Val Thr Leu His Pro Asp Asn	Thr Lys Gly Ile Cys Tyr	
65 70	75	80
Asn Val Ile Pro Phe Arg Leu Ile Ala	Leu Ala Ile Ala Phe Leu Gly	
85 90	95	
Val Phe Val Tyr Ile Val Ser Gly Lys Asp Asp Gln Phe Ser Pro Ser		
100 105	110	
Leu Val Leu Phe Ile Cys Ile Phe Ala Pro Ser Val Trp Arg Ser Lys		
115 120	125	
Arg Pro His Ser His		
130		

<210> 9429
<211> 122
<212> PRT
<213> B.fragilis

<400> 9429		
His Tyr Gly Arg Lys Lys Val Val Ile Ser Leu Asn Asp Asn Leu Val		
1 5	10	15
Thr Ile Glu Val Asn Gly Lys Val Ile Phe Ala Gly Lys Ala Asp Leu		
20 25	30	
Gln Phe Ser Leu Asn Gln Lys Val Arg Glu Pro Leu Arg Ile Thr Lys		
35 40	45	
Gly Lys Gly Lys Leu Met Glu Ala Leu Thr Glu Ser Phe Ile Lys Gly		
50 55	60	
Gly Ile Asn Ser Met Glu Asn Arg Pro Ile Glu Glu Leu Gln Glu Thr		
65 70	75	80
Ile Lys Glu Tyr Leu Thr Phe Glu Tyr Gln Arg Lys Gly Ile Ala Thr		
85 90	95	

Glu Pro Asn Lys Arg Ser Phe Leu Ser Glu Leu Lys Lys Tyr Ala Arg
 100 105 110
 Ala Phe Arg Lys Lys Arg Asp Glu Ser Glu
 115 120

<210> 9430

<211> 89

<212> PRT

<213> B.fragilis

<400> 9430

Lys Pro Phe Gly Arg Val Asn Asn Asp His Tyr Asn Thr Ser Lys Asn
 1 5 10 15
 Arg Lys Gly Ile Asp Lys Asp Lys Pro Val Lys Ser Arg Asn Asp Asp
 20 25 30
 Cys Ser Asp Leu Asp Gly Thr Ser Ala Ser Thr Ser Thr Asp Thr Gly
 35 40 45
 Trp Leu Asp Ala Ser Ser Leu Tyr Ile Pro Val Leu Ala Val Lys Val
 50 55 60
 Leu Leu Ile Arg Lys Ile Ser Trp Met Ile Leu Leu Asn Ile Asn Val
 65 70 75 80
 Thr Val Arg Asn Phe Arg Pro Gly Arg
 85

<210> 9431

<211> 61

<212> PRT

<213> B.fragilis

<400> 9431

Val Phe Asn Gly Ile Leu Glu Ala Lys Gln Leu Ile Gly Glu Glu Ile
 1 5 10 15
 Thr Ser Ser Pro Gly Phe Asn Ser Lys Thr Val Asn Ala Thr Cys Ile
 20 25 30
 Ala Glu Ala Tyr Glu Phe Val Val Ser Lys Phe Ser Ile Pro Lys Lys
 35 40 45
 Val Asp Asn Phe Ser Ser Lys Arg Ser Pro His Phe Pro
 50 55 60

<210> 9432

<211> 296

<212> PRT

<213> B.fragilis

<400> 9432

Phe Met Lys Gly Ile Val Leu Ala Gly Gly Ser Gly Thr Arg Leu Tyr
 1 5 10 15
 Pro Ile Thr Lys Gly Ile Ser Lys Gln Leu Leu Pro Ile Phe Asp Lys
 20 25 30
 Pro Met Ile Tyr Tyr Pro Ile Ser Val Leu Met Leu Ala Gly Ile Arg
 35 40 45
 Glu Ile Leu Ile Ile Ser Thr Pro His Asp Leu Pro Gly Phe Gln Arg
 50 55 60
 Leu Leu Gly Asp Gly Ser Asp Phe Gly Val His Phe Glu Tyr Ala Glu
 65 70 75 80
 Gln Pro Ser Pro Asp Gly Leu Ala Gln Ala Phe Ile Ile Gly Glu Lys
 85 90 95
 Phe Ile Gly Ser Asp Ser Val Cys Leu Val Leu Gly Asp Asn Ile Phe
 100 105 110

Tyr Gly Gln Gly Phe Thr Tyr Met Leu His Glu Ala Val Arg Thr Ala
 115 120 125
 Glu Ser Glu Asn Lys Ala Thr Val Phe Gly Tyr Trp Val Ser Asp Pro
 130 135 140
 Glu Arg Tyr Gly Val Ala Glu Phe Asp Gln Glu Gly Asn Val Leu Ser
 145 150 155 160
 Ile Glu Glu Lys Pro Gln Ile Pro Lys Ser His Tyr Ala Val Val Gly
 165 170 175
 Leu Tyr Phe Tyr Pro Asn Lys Val Val Glu Ile Ala Gln Asn Ile Lys
 180 185 190
 Pro Ser Pro Arg Gly Glu Leu Glu Ile Thr Thr Val Asn Gln Gln Phe
 195 200 205
 Leu Leu Asp Lys Lys Leu Lys Val Lys Leu Leu Gly Arg Gly Phe Ala
 210 215 220
 Trp Leu Asp Thr Gly Thr His Asp Ser Leu Ser Glu Ala Ser Thr Phe
 225 230 235 240
 Ile Glu Val Ile Glu Lys Arg Gln Gly Leu Lys Val Ala Cys Leu Glu
 245 250 255
 Gly Ile Ala Phe Arg Gln Gly Trp Ile Ser Leu Ala Lys Met Lys Ser
 260 265 270
 Leu Ala Asn Leu Met Leu Arg Asn Gln Tyr Gly Gln Tyr Leu Leu Lys
 275 280 285
 Val Ile Asn Glu Leu Ser Val Lys
 290 295

<210> 9433

<211> 556

<212> PRT

<213> B.fragilis

<400> 9433
 Ile Ile His Met Glu Trp Leu Tyr Ser Leu Phe Ile Glu His Ser Ala
 1 5 10 15
 Leu Gln Ala Val Val Val Leu Ser Leu Ile Ser Ala Ile Gly Leu Gly
 20 25 30
 Leu Gly Lys Ile His Val Cys Gly Ile Ser Leu Gly Val Thr Phe Val
 35 40 45
 Phe Phe Ala Gly Ile Leu Ala Gly His Phe Gly Leu Ser Ile Asp Pro
 50 55 60
 Gln Met Leu Asn Tyr Ala Glu Ser Phe Gly Leu Ile Ile Phe Val Tyr
 65 70 75 80
 Ala Leu Gly Leu Gln Val Gly Pro Gly Phe Phe Ser Ser Phe Arg Lys
 85 90 95
 Gly Gly Val Thr Leu Asn Met Leu Ala Ile Ala Val Val Ile Leu Gly
 100 105 110
 Thr Phe Leu Ala Val Val Cys Ser Tyr Thr Thr Gly Val Ser Leu Pro
 115 120 125
 Asn Met Val Gly Ile Leu Cys Gly Ala Thr Thr Asn Thr Pro Ala Leu
 130 135 140
 Gly Ala Ala Gln Gln Thr Leu Lys Gln Met Gly Leu Glu Ser Ser Thr
 145 150 155 160
 Pro Ala Leu Gly Cys Ala Val Ala Tyr Pro Leu Gly Val Ile Gly Val
 165 170 175
 Ile Leu Ala Val Leu Leu Ile Arg Lys Leu Leu Val Arg Arg Glu Asp
 180 185 190
 Leu Glu Val Gln Glu Lys Asp Asp Ala Asn Lys Thr Tyr Ile Ala Ala
 195 200 205
 Phe Gln Val His Asn Pro Ala Ile Phe Asn Lys Ser Ile Lys Asp Ile
 210 215 220

Ala His Met Ser Tyr Pro Lys Phe Val Ile Ser Arg Leu Trp Arg Asp
 225 230 235 240
 Gly Asn Val Ser Ile Pro Thr Ser Glu Lys Ile Ile Lys Glu Gly Asp
 245 250 255
 Arg Leu Leu Val Val Thr Ser Glu Lys Asp Ala Leu Ala Leu Thr Val
 260 265 270
 Leu Phe Gly Glu Gln Glu Asn Thr Asp Trp Asn Lys Glu Asp Ile Asp
 275 280 285
 Trp Asn Ala Ile Asp Ser Gln Leu Ile Ser Gln Arg Ile Val Val Thr
 290 295 300
 Arg Pro Glu Leu Asn Gly Lys Lys Leu Gly Ala Leu Arg Leu Arg His
 305 310 315 320
 His Tyr Gly Ile Asn Ile Ser Arg Val Tyr Arg Ser Gly Val Gln Leu
 325 330 335
 Leu Ala Thr Pro Glu Leu Thr Leu Gln Leu Gly Asp Arg Leu Thr Val
 340 345 350
 Val Gly Glu Ala Ala Ala Ile Gln Asn Val Glu Lys Val Leu Gly Asn
 355 360 365
 Ala Ile Lys Ser Leu Lys Glu Pro Asn Leu Val Ala Val Phe Val Gly
 370 375 380
 Ile Ile Leu Gly Leu Ala Leu Gly Ala Val Pro Phe Ser Ile Pro Gly
 385 390 395 400
 Ile Ser Thr Pro Val Arg Leu Gly Leu Ala Gly Gly Pro Ile Ile Val
 405 410 415
 Gly Ile Leu Ile Gly Thr Phe Gly Pro Arg Leu His Met Ile Thr Tyr
 420 425 430
 Thr Thr Arg Ser Ala Asn Leu Met Leu Arg Ala Leu Gly Leu Ser Leu
 435 440 445
 Tyr Leu Ala Cys Leu Gly Leu Asp Ala Gly Ala His Phe Phe Asp Thr
 450 455 460
 Val Phe Arg Pro Glu Gly Leu Leu Trp Ile Gly Leu Gly Phe Gly Leu
 465 470 475 480
 Thr Leu Val Pro Thr Val Leu Val Gly Phe Phe Ala Phe Lys Ile Met
 485 490 495
 Lys Ile Asp Phe Gly Ser Val Ser Gly Met Leu Cys Gly Ser Met Ala
 500 505 . 510
 Asn Pro Met Ala Leu Asn Tyr Ala Asn Asp Thr Ile Pro Gly Asp Asn
 515 520 525
 Pro Ser Val Ala Tyr Ala Thr Val Tyr Pro Leu Ser Met Phe Leu Arg
 530 535 540
 Val Ile Ile Ala Gln Val Leu Leu Met Phe Leu Leu
 545 550 555

<210> 9434

<211> 343

<212> PRT

<213> B.fragilis

<400> 9434

Ile Ile Leu Ile Met Phe Lys Asp Lys Val Leu Met Ile Thr Gly Gly
 1 5 10 15
 Thr Gly Ser Phe Gly Asn Ala Val Leu Lys His Phe Leu Asn Ser Asp
 20 25 30
 Leu Lys Glu Ile Arg Ile Phe Ser Arg Asp Glu Lys Lys Gln Glu Asp
 35 40 45
 Met Arg Ile Glu Tyr Lys Asn Asp Lys Leu Asn Phe Ile Ile Gly Asn
 50 55 60
 Val Arg Asp Phe Asp Thr Ile Asn Asn Ala Met Ala Gly Val Asp Tyr
 65 70 75 80

Val Phe His Ala Ala Leu Lys Gln Val Pro Ser Cys Glu Phe Tyr
 85 90 95
 Pro Met Gln Ala Ile Arg Thr Asn Leu Tyr Gly Ala Glu Asn Val Leu
 100 105 110
 Glu Ala Ala Ala Arg Asn Asn Val Lys Lys Val Val Val Leu Ser Thr
 115 120 125
 Asp Lys Ala Ala Tyr Pro Ile Asn Ala Met Gly Met Thr Lys Ala Leu
 130 135 140
 Met Glu Lys Leu Ala Ile Ser Lys Ala Arg Asp Ala Arg Val Gln Ala
 145 150 155 160
 Asn Gly Gly Val Ile Cys Ala Thr Arg Tyr Gly Asn Val Met Cys Ser
 165 170 175
 Arg Gly Ser Ile Ile Pro Leu Phe Ile Lys Gln Ile Lys Glu Gly Leu
 180 185 190
 Pro Leu Thr Ile Thr Glu Pro Arg Met Thr Arg Phe Met Met Ser Leu
 195 200 205
 Asp Asp Ala Val Asp Leu Val Leu Phe Ala Phe Lys Asn Ala Glu Pro
 210 215 220
 Gly Asp Leu Phe Val Gln Lys Ala Pro Ala Ala Thr Ile Gln Asp Leu
 225 230 235 240
 Ala Ile Ala Leu Lys Glu Leu Phe His Ala Asn Asn Glu Ile His Ile
 245 250 255
 Ile Gly Pro Arg His Gly Glu Lys Met Tyr Glu Thr Leu Cys Thr Lys
 260 265 270
 Glu Glu Met Ser Lys Ala Thr Asp Met Gly Glu Phe Tyr Arg Val Pro
 275 280 285
 Ala Asp Phe Arg Asp Leu Asn Tyr Thr Lys Tyr Val Gln Lys Asp Gly
 290 295 300
 Pro Met Leu Val Glu His Glu Tyr Asn Ser Glu Asn Thr His Arg Leu
 305 310 315 320
 Asn Val Glu Glu Leu Lys Glu Met Leu Leu Thr Leu Asp Tyr Val Lys
 325 330 335
 Glu Glu Leu Gly Ile Asn Lys
 340

<210> 9435

<211> 187

<212> PRT

<213> B.fragilis

<400> 9435

Met Asn Ile Ile Lys Thr Ala Ile Glu Gly Leu Val Ile Ile Glu Pro
 1 5 10 15
 Arg Leu Phe Gln Asp Asp Arg Gly Tyr Phe Phe Glu Ser Phe Asn Gln
 20 25 30
 Glu Glu Phe Glu Thr Lys Val Cys Lys Thr Thr Phe Ile Gln Asp Asn
 35 40 45
 Glu Ser Lys Ser Thr Tyr Gly Val Ile Arg Gly Leu His Phe Gln Lys
 50 55 60
 Pro Pro Phe Ala Gln Ser Lys Leu Val Arg Val Ile Arg Gly Ser Val
 65 70 75 80
 Leu Asp Val Ala Val Asp Ile Arg Lys Asp Ser Pro Thr Phe Gly Lys
 85 90 95
 His Ile Ser Val Glu Leu Thr Gly Asp Asn His Arg Gln Phe Phe Ile
 100 105 110
 Pro Arg Gly Phe Ala His Gly Phe Cys Val Leu Ser Glu Glu Val Val
 115 120 125
 Phe Gln Tyr Lys Cys Asp Asn Phe Tyr His Pro Glu Ser Glu Gly Thr
 130 135 140

Ile Ala Trp Asn Asp Ile Asp Leu Asn Ile Ser Trp Arg Ile Pro Leu
 145 150 155 160
 Glu Asp Val Val Leu Ser Arg Lys Asp Lys Asn Ala Leu Pro Leu Lys
 165 170 175
 Glu Met Tyr Ser Asp Val Asn Tyr Phe Arg Phe
 180 185

<210> 9436

<211> 374

<212> PRT

<213> B.fragilis

<400> 9436

Lys Tyr Arg Ile Leu His Arg Gln Lys Asp Tyr Lys Leu Lys Thr Ile
 1 5 10 15
 Asp Met Lys Lys Ala Leu Ile Ser Gly Ile Thr Gly Gln Asp Gly Ser
 20 25 30
 Phe Leu Ala Glu Phe Leu Leu Gln Lys Gly Tyr Glu Val His Gly Ile
 35 40 45
 Leu Arg Arg Ser Ser Ser Phe Asn Thr Gly Arg Ile Glu His Leu Tyr
 50 55 60
 Phe Asp Glu Trp Val Arg Asp Met Lys Gln Lys Arg Thr Val Asn Leu
 65 70 75 80
 His Tyr Gly Asp Met Thr Asp Ser Ser Ser Leu Ile Arg Ile Ile Gln
 85 90 95
 Gln Val Gln Pro Asp Glu Ile Tyr Asn Leu Ala Ala Gln Ser His Val
 100 105 110
 Lys Val Ser Phe Asp Val Pro Glu Tyr Thr Ala Glu Ala Asp Ala Leu
 115 120 125
 Gly Thr Leu Arg Met Leu Glu Ala Val Arg Ile Leu Gly Leu Glu Lys
 130 135 140
 Gln Thr Arg Ile Tyr Gln Ala Ser Thr Ser Glu Leu Tyr Gly Lys Val
 145 150 155 160
 Gln Glu Val Pro Gln Ser Glu Thr Thr Pro Phe Tyr Pro Arg Ser Pro
 165 170 175
 Tyr Gly Val Ala Lys Gln Tyr Gly Phe Trp Ile Thr Lys Asn Tyr Arg
 180 185 190
 Glu Ser Tyr Gly Met Phe Ala Val Asn Gly Ile Leu Phe Asn His Glu
 195 200 205
 Ser Glu Arg Arg Gly Glu Thr Phe Val Thr Arg Lys Ile Thr Leu Ala
 210 215 220
 Ala Ala Arg Ile Ala Gln Gly Glu Gln Asp Lys Leu Tyr Leu Gly Asn
 225 230 235 240
 Leu Asp Ala Lys Arg Asp Trp Gly Tyr Ala Lys Asp Tyr Val Glu Cys
 245 250 255
 Met Trp Leu Ile Leu Gln His Asp Val Pro Glu Asp Phe Val Ile Ala
 260 265 270
 Thr Gly Glu Met His Thr Val Arg Glu Phe Cys Thr Leu Ala Phe Ala
 275 280 285
 Glu Ile Gly Ile Asn Leu Arg Trp Glu Gly Glu Gly Val Asn Glu Lys
 290 295 300
 Gly Ile Asp Thr Ala Thr Gly Lys Val Leu Val Glu Val Asp Pro Lys
 305 310 315 320
 Tyr Phe Arg Pro Ala Glu Val Glu Gln Leu Leu Gly Asn Pro Thr Lys
 325 330 335
 Ala Arg Thr Val Leu Gly Trp Asn Pro Cys Lys Thr Pro Phe Pro Glu
 340 345 350
 Leu Val Lys Ile Met Val Arg His Asp Met Ala Lys Val Lys Arg Met
 355 360 365

Ile Ala Thr Lys His Asp
370

<210> 9437

<211> 364

<212> PRT

<213> B.fragilis

<400> 9437

Ile	Ile	Met	Ile	Pro	Leu	Val	Lys	Pro	Tyr	Leu	Pro	Pro	Ala	Asp	Ile
1		5					10						15		
Leu	Met	Pro	Glu	Leu	His	Lys	Ile	Leu	Tyr	Ser	Gly	Tyr	Ile	Ala	Glu
	20						25						30		
Gly	Glu	Ala	Val	Tyr	Gln	Phe	Glu	Asp	Lys	Phe	Arg	Ala	Tyr	Ile	Gly
	35						40					45			
Asn	Pro	Leu	Ser	Leu	Ala	Leu	His	Ser	Gly	Thr	Asp	Gly	Leu	His	Leu
	50						55					60			
Ser	Leu	Leu	Leu	Ala	Gly	Val	Lys	Pro	Gly	Asp	Glu	Val	Ile	Ser	Thr
	65					70			75			80			
Pro	Met	Thr	Ala	Glu	Pro	Thr	Asn	Thr	Ser	Ile	Ala	Met	Val	Gly	Gly
		85						90					95		
Lys	Val	Val	Trp	Gly	Asp	Val	Asn	Pro	Asn	Asn	Gly	Leu	Leu	Asp	Pro
		100						105					110		
Arg	Ser	Val	Glu	Ser	Val	Ile	Thr	Glu	Lys	Thr	Lys	Ala	Ile	Val	Leu
		115					120					125			
Val	His	Tyr	Ala	Gly	Met	Val	Cys	Asp	Met	Asp	Ala	Phe	Asn	Lys	Ile
		130					135					140			
Ser	Gln	Lys	Tyr	Asn	Ile	Pro	Ile	Ile	Glu	Asp	Ala	Ala	His	Ala	Leu
	145					150			155			160			
Gly	Ser	Lys	Tyr	Ala	Gly	Lys	Met	Val	Gly	Cys	Ser	Ser	Pro	Tyr	Thr
		165					170			175			175		
Ile	Phe	Ser	Leu	Gln	Ala	Ile	Lys	His	Met	Thr	Thr	Ile	Asp	Gly	Gly
		180					185			190					
Phe	Leu	Cys	Leu	Lys	Asp	Glu	Ile	Glu	Phe	Asp	Lys	Ala	Arg	Arg	Leu
		195					200			205					
Arg	Trp	Phe	Gly	Leu	Asp	Lys	Lys	Arg	Ser	Arg	Leu	Glu	Asn	Asp	Ile
		210					215			220					
Thr	Glu	Val	Gly	Tyr	Lys	Tyr	Ala	Met	Asn	Asn	Val	Asn	Ala	Thr	Ile
	225				230				235					240	
Gly	Asn	Val	Gln	Met	Lys	Tyr	Val	Asp	Lys	Ile	Ile	Ala	Ser	Tyr	Ile
		245					250			255					
Glu	Asn	Gly	Arg	Tyr	Tyr	Asp	Leu	Ala	Leu	Ser	Asp	Ile	Asp	Gly	Ile
		260					265			270					
His	Leu	Val	Asp	Tyr	Ser	Ala	Lys	Thr	Glu	Ala	Ser	Tyr	Trp	Leu	Tyr
		275					280			285					
Thr	Met	Arg	Val	Asp	Glu	Arg	Asp	Asn	Phe	Ile	Lys	Ala	Met	Glu	Ser
		290				295				300					
Ala	Gly	Ile	Leu	Ala	Ser	Pro	Leu	His	His	Arg	Ser	Asp	Thr	His	Ser
	305					310			315			320			
Ile	Phe	Lys	Glu	Ser	Lys	Arg	Glu	Leu	Pro	Asn	Met	Asp	Arg	Trp	Tyr
		325					330					335			
Arg	Glu	Phe	Val	His	Ile	Pro	Cys	Gly	Trp	Trp	Ile	Thr	Glu	Glu	Val
		340					345					350			
Arg	Thr	Gln	Ile	Val	Glu	Ala	Ile	Lys	Lys	Gly	Trp				
		355					360								

<210> 9438

<211> 83

<212> PRT

<213> B.fragilis

<400> 9438

Leu	Phe	Leu	Val	Asp	Gly	Gly	Leu	Ile	Asp	Ala	Cys	Cys	Lys	Lys	Lys
1				5					10				15		
Tyr	Lys	Cys	Val	Thr	Trp	Cys	Gly	Val	Lys	Asn	Val	Cys	Ile	Leu	Leu
				20					25			30			
Leu	Glu	Leu	Leu	Val	Thr	Ser	Cys	Phe	Asp	Asp	Asp	Leu	Glu	Arg	Lys
				35				40			45				
Val	Asp	Ser	Leu	Glu	Tyr	Glu	Ile	Glu	Lys	Val	Ile	Ser	Thr	Asn	Asp
				50				55			60				
Ile	Leu	Ser	Leu	Lys	Tyr	Glu	Leu	Tyr	Leu	Ala	Cys	Tyr	Glu	Gly	Lys
				65				70			75		80		
Leu	Leu	Lys													

<210> 9439

<211> 358

<212> PRT

<213> B.fragilis

<400> 9439

Phe	Ile	Met	Val	Pro	Leu	Tyr	Lys	Pro	Tyr	Met	Pro	Glu	Gln	Leu	Pro
1				5					10			15			
Asp	Leu	Asp	Ala	Ile	Ile	His	Ser	Gly	Ala	Leu	Ser	Tyr	Gly	Lys	Trp
				20					25			30			
Gly	Leu	Leu	Leu	Glu	Glu	Lys	Leu	Ser	Thr	Phe	Leu	Gly	Ile	Glu	Asn
				35				40			45				
Leu	Leu	Thr	Thr	Asn	Ser	Tyr	Ala	Ser	Ala	Ile	Gln	Val	Ala	Leu	Thr
				50				55			60				
Val	Leu	Glu	Leu	Lys	Pro	Gly	Asp	Glu	Val	Ile	Ser	Ser	Pro	Met	Ser
				65				70			75		80		
Cys	Leu	Ala	Ser	Asn	Met	Pro	Leu	Lys	Thr	Tyr	Gly	Leu	Asp	Ile	Val
				85					90			95			
Trp	Ala	Asp	Ile	Asp	Pro	Thr	Thr	Gly	Thr	Leu	Ser	Pro	Asp	Ser	Val
				100					105			110			
Arg	Glu	Lys	Val	Thr	Pro	Lys	Thr	Lys	Leu	Ile	Phe	His	Asn	His	Phe
				115					120			125			
Cys	Gly	Tyr	Val	Gly	Tyr	Val	Asp	Glu	Ile	Asn	Ala	Val	Ala	Lys	Glu
				130				135			140				
Phe	Gly	Ile	Pro	Val	Ile	Asp	Asp	Cys	Val	Glu	Ala	Phe	Gly	Ser	Lys
				145				150			155		160		
Tyr	Lys	Gly	Lys	Tyr	Thr	Gly	Asn	Leu	Gly	Thr	Asp	Leu	Ser	Val	Phe
				165					170			175			
Ser	Phe	Gln	Thr	Val	Arg	Leu	Pro	Asn	Thr	Val	Asp	Gly	Gly	Ala	Ile
				180					185			190			
Val	Phe	Asn	Asn	Lys	Ser	Leu	Leu	Asp	Lys	Ala	Ile	Leu	Thr	Arg	Asp
				195				200			205				
Phe	Gly	Ile	Asn	Arg	Lys	Thr	Phe	Arg	Asp	Glu	Tyr	Ala	Glu	Ile	Ser
				210				215			220				
Pro	Ser	Cys	Asp	Ile	Ser	Leu	Ser	Gly	Tyr	Gly	Ala	Thr	Met	Ser	Glu
				225				230			235		240		
Leu	Asn	Ser	Tyr	Ile	Gly	Cys	Met	Gln	Met	Gly	Thr	Ile	Gln	Gln	Leu
				245					250			255			
Leu	Glu	Thr	Gln	Arg	Leu	Asn	Ser	Glu	Arg	Trp	Asp	Thr	Phe	Leu	Thr
				260				265			270				
Glu	Asn	Tyr	Pro	Lys	Val	Tyr	Lys	Leu	Asn	Thr	Arg	Arg	Glu	Ile	Gln
				275				280			285				
Pro	Asn	Tyr	Trp	Val	Tyr	Gly	Cys	Leu	Ala	Glu	Asn	Lys	Leu	Asp	Met

290	295	300
Met Leu Gln Phe Arg Ser	Leu Gly Tyr Tyr Ala Ser Gly Val His Leu	
305	310	315
Asn Asn Asn Cys Tyr Ser Ile Phe Gly Asp Lys Lys Tyr Leu Pro Gly		320
325	330	335
Val Asp Ser Phe Asn Arg Asn Phe Leu Ala Ile Pro Cys Gly Trp Trp		
340	345	350
Val Asp Arg Cys Leu Leu		
355		

<210> 9440

<211> 360

<212> PRT

<213> B.fragilis

<400> 9440

Cys Asp Gly Val Phe His His Gly Thr Ile Leu Tyr Ile Ser Lys Lys		
1	5	10
Phe Thr Asp Ser Gly Val Leu Ser Gly Tyr Arg Asp Leu Asp Asp Leu		15
20	25	30
Leu Phe Ile Tyr Arg Glu Lys Ile His Pro Val Gly Lys Val Tyr Ile		
35	40	45
Phe Ile Glu Glu Ile Gln Lys Val Glu Gly Trp Glu His Phe Val His		
50	55	60
Ser His Ser Gln Asp Phe Val Asp Thr Cys Glu Leu Phe Ile Ser Gly		
65	70	75
Ser Asn Gln Asp Met Leu Ser Gly Glu Ala Glu Lys Leu Leu Ala Arg		80
85	90	95
His Tyr Val Ser Phe Glu Ile Phe Pro Phe Ser Phe Ser Glu His Arg		
100	105	110
Ile Leu Glu Arg Val Glu Ala Thr Gly Lys Asn Tyr Ala Glu Tyr Met		
115	120	125
Gly Lys Gly Ala Leu Pro Ile Leu Phe Asn Leu Pro Asp Ala Glu Ala		
130	135	140
Gly Trp Lys Ala Ile Ser Ala Leu Arg Asp Thr Ile Leu Phe Arg Asp		
145	150	155
Ile Ile Arg Arg Tyr Arg Ile Lys Asp Ala Arg Leu Leu Glu Asp Val		160
165	170	175
Phe Val Tyr Leu Cys Thr His Leu Ala Glu Leu Ile Thr Ile Gly Gln		
180	185	190
Leu Val Ser His Phe Ala Ala Gln Asn Arg Lys Thr Ser Tyr Asp Thr		
195	200	205
Val Ala Asn Tyr Ile Cys Tyr Leu Glu Asp Thr Ser Leu Ile His Arg		
210	215	220
Val Glu Arg Tyr Gln Ile Arg Ser Lys Glu Ile Leu Leu Gly Ser Cys		
225	230	235
Lys Tyr Tyr Ile Asn Asp Trp Ala Phe Met Arg His Leu Tyr Pro Phe		240
245	250	255
Phe Ala Gly Ser Arg Lys Ser Cys Phe Glu Asn Gln Val Tyr Leu Glu		
260	265	270
Leu Arg Arg Ala Gly Tyr Thr Val Phe Val Gly Val Leu Arg Gly Gly		
275	280	285
Lys Leu Val Asp Phe Val Gly Arg Lys Lys Asp Arg Ile Val Tyr Leu		
290	295	300
Gln Cys Ala Pro Leu Leu Asn Asp Asp Phe Gln Val Glu Gln Met Tyr		
305	310	315
Asn Thr Leu Glu Met Ile Gln Asp Asn Tyr Glu Lys Trp Val Val Ser		320
325	330	335
Met Asp Asp Thr Thr Leu Pro Ser Lys Glu Gly Ile Arg His Ile Gln		

340

345

350

Val Trp Gln Leu Pro Glu Ile Leu
 355 360

<210> 9441
 <211> 83
 <212> PRT
 <213> B.fragilis

<400> 9441
 Thr Pro Val Phe Gln Cys Val Val Ala Phe Thr Cys Ala Ser Leu Trp
 1 5 10 15
 Phe Ser Val Ser Leu Cys Gln Ile Lys Ala Met Asp Gln Glu Glu Leu
 20 25 30
 His Thr Gln Ile Leu Met Arg Asp Tyr Leu Glu Arg Gln Glu Leu Lys
 35 40 45
 Ala Ser Ala Ile Ala Thr Asn His Cys Val Asp Met Glu Ser Asp Glu
 50 55 60
 Leu Arg Arg Tyr Val Tyr Ala Ser Phe Trp Gly Ser Trp Lys Arg Asn
 65 70 75 80
 Arg Ser Arg

<210> 9442
 <211> 471
 <212> PRT
 <213> B.fragilis

<400> 9442
 Leu Ile Lys Ser Tyr Ser Asn Met Phe Lys His Leu Asn Ala Leu Phe
 1 5 10 15
 Ile Gly Leu Ala Leu Phe Ala Cys Thr Ser Gly Ala Val Ala Gln Thr
 20 25 30
 Ile Lys Pro Ile Glu Thr Pro Val Pro Val Arg Pro Ala Gly Gln Lys
 35 40 45
 Asp Val Val Gly Leu Thr Thr Pro Lys Leu Asp Val Val Arg Val Gly
 50 55 60
 Phe Ile Gly Leu Gly Met Arg Gly Pro Gly Ala Val Glu Arg Phe Thr
 65 70 75 80
 His Ile Pro Gly Thr Gln Ile Val Ala Leu Cys Asp Leu Ile Pro Glu
 85 90 95
 Arg Val Ala Gly Ala Gln Lys Ile Leu Thr Lys Ala Asn Leu Pro Glu
 100 105 110
 Ala Ala Ser Tyr Ser Gly Ser Glu Asp Ala Trp Lys Lys Leu Cys Glu
 115 120 125
 Arg Lys Asp Ile Asp Leu Val Tyr Ile Ala Thr Asp Trp Lys His His
 130 135 140
 Ala Gln Met Ala Ile Tyr Ala Met Glu His Gly Lys His Val Ala Ile
 145 150 155 160
 Glu Val Pro Ser Ala Met Thr Leu Asp Glu Ile Trp Ala Leu Ile Asn
 165 170 175
 Thr Ser Glu Lys Thr Arg Lys His Cys Met Gln Leu Glu Asn Cys Val
 180 185 190
 Tyr Asp Phe Phe Glu Leu Thr Thr Leu Asn Met Ala Gln Gln Gly Val
 195 200 205
 Phe Gly Glu Val Leu His Thr Glu Gly Ala Tyr Ile His Asn Leu Glu
 210 215 220
 Asp Phe Trp Pro Tyr Tyr Trp Lys His Trp Arg Met Asp Tyr Asn Gln
 225 230 235 240

Asn His Arg Gly Asp Val Tyr Ala Thr His Gly Met Gly Pro Ala Cys
 245 250 255
 Gln Leu Leu Asp Ile His Arg Gly Asp Lys Met Asn Tyr Leu Val Ser
 260 265 270
 Met Asp Thr Lys Ala Val Asn Gly Pro Ala Tyr Ile Lys Lys Thr Thr
 275 280 285
 Gly Lys Glu Val Lys Asp Phe Gln Asn Gly Asp Gln Thr Ser Thr Leu
 290 295 300
 Ile Arg Thr Glu Lys Gly Lys Thr Ile Leu Ile Gln His Asn Val Met
 305 310 315 320
 Thr Pro Arg Pro Tyr Ser Arg Met Tyr Gln Val Val Gly Ala Asp Gly
 325 330 335
 Tyr Ala Ser Lys Tyr Pro Ile Glu Glu Tyr Cys Met Arg Pro Thr Gln
 340 345 350
 Ile Ala Ser Asn Asp Val Pro Asn His Glu Lys Leu Asn Ala His Gly
 355 360 365
 Ser Val Pro Ala Asp Val Lys Lys Thr Leu Met Asp Lys Tyr Lys His
 370 375 380
 Pro Ile His Lys Glu Leu Glu Glu Thr Ala Lys Lys Val Gly Gly His
 385 390 395 400
 Gly Gly Met Asp Tyr Ile Met Asp Tyr Arg Leu Val Tyr Cys Leu Arg
 405 410 415
 Asn Gly Leu Pro Leu Asp Met Asp Val Tyr Asp Leu Ala Glu Trp Cys
 420 425 430
 Cys Met Ala Asp Leu Thr Lys Leu Ser Ile Glu Asn Ser Ser Ala Pro
 435 440 445
 Val Ala Ile Pro Asp Phe Thr Arg Gly Ala Trp Asn Lys Val Lys Gly
 450 455 460
 Tyr Arg His Ala Phe Ala Lys
 465 470

<210> 9443

<211> 319

<212> PRT

<213> B.fragilis

<400> 9443

Asp Ser Tyr Pro Asp Ser Arg Gln Ile Ile Lys Arg Gln Gln Cys
 1 5 10 15
 Leu Gln Leu Ser Thr Pro Asn Asp Gln Ser Phe Ser Pro Arg Arg Ser
 20 25 30
 Tyr Glu Lys Cys Tyr Phe Thr Gly Gly Phe Gln Pro Ser Ser Val Gln
 35 40 45
 Ala Ala Asp Ile Trp Tyr Leu Tyr Thr Leu Tyr Gly Tyr Glu Ile Asn
 50 55 60
 Ile Asn Leu Thr Ser Ser Pro Phe Met Gln Lys Tyr Gly Leu Ile Gly
 65 70 75 80
 Tyr Pro Leu Lys His Ser Phe Ser Ile Gly Phe Phe Asn Glu Lys Phe
 85 90 95
 Lys Ser Glu Gly Ile Asp Ala Glu Tyr Val Asn Phe Glu Ile Pro Glu
 100 105 110
 Ile Asn Asp Phe Met Glu Val Ile Glu Glu Asn Pro Asn Leu Cys Gly
 115 120 125
 Leu Asn Val Thr Ile Pro Tyr Lys Glu Gln Val Ile Pro Phe Leu Asp
 130 135 140
 Glu Leu Asp Lys Asp Thr Ala Lys Ile Gly Ala Val Asn Val Ile Lys
 145 150 155 160
 Ile Ile Arg Thr Pro Lys Arg Lys Ile Lys Leu Val Gly Tyr Asn Ser
 165 170 175

Asp Ile Ile Gly Phe Ser Gln Ser Ile Gln Pro Leu Leu Gln Pro Tyr
 180 185 190
 His Lys Lys Ala Leu Ile Leu Gly Thr Gly Gly Ser Ser Lys Ala Ile
 195 200 205
 Tyr His Gly Leu Lys Asn Leu Gly Ile Asp Ser Val Phe Val Ser Arg
 210 215 220
 Thr Lys Lys Glu Gly Met Leu Thr Tyr Glu Glu Leu Thr Pro Glu Val
 225 230 235 240
 Met Ala Glu His Thr Val Ile Val Asn Cys Thr Pro Val Gly Met Tyr
 245 250 255
 Pro Lys Val Asp Phe Cys Pro Ala Ile Pro Tyr Glu Leu Leu Thr Pro
 260 265 270
 Asn His Leu Leu Tyr Asp Leu Leu Tyr Asn Pro Asn Ile Thr Leu Phe
 275 280 285
 Met Lys Lys Gly Glu Glu His Gly Ala Val Thr Lys Asn Gly Leu Glu
 290 295 300
 Met Leu Leu Leu Gln Ala Phe Ala Ala Trp Glu Ile Trp Asn Lys
 305 310 315

<210> 9444

<211> 263

<212> PRT

<213> B.fragilis

<400> 9444

Asn Pro Cys Pro Ile Ile Arg Leu His Asn Pro Ser Met Lys Met Lys
 1 5 10 15
 Ile Ser Lys Pro Ser Lys Gln Gly Val Ile Arg Glu Thr Lys Asp Tyr
 20 25 30
 Leu Met Ile Ala Leu Gly Met Ile Leu Tyr Gly Ile Gly Trp Thr Leu
 35 40 45
 Phe Leu Leu Pro Asn Asp Ile Thr Thr Gly Gly Val Pro Gly Ile Ala
 50 55 60
 Ser Ile Val Tyr Phe Ala Thr Gly Phe Pro Val Gln Tyr Thr Tyr Phe
 65 70 75 80
 Ala Ile Asn Ala Val Leu Leu Met Val Ser Leu Lys Val Leu Gly Phe
 85 90 95
 Arg Phe Ser Leu Lys Thr Ile Phe Gly Val Phe Thr Leu Thr Phe Phe
 100 105 110
 Leu Ser Val Ile Gln Lys Leu Thr Ala Asn Val Thr Leu Leu His Asp
 115 120 125
 Gln Pro Phe Met Ala Cys Val Leu Gly Ala Ser Phe Cys Gly Ser Gly
 130 135 140
 Ile Gly Ile Ala Phe Ser Ala Asn Gly Ser Thr Gly Gly Thr Asp Ile
 145 150 155 160
 Ile Ala Ala Val Ile Asn Lys Tyr Arg Asp Ile Thr Leu Gly Arg Val
 165 170 175
 Met Leu Ile Cys Asp Leu Ile Ile Ser Ser Ser Tyr Phe Val Leu
 180 185 190
 Lys Asp Trp Glu Lys Val Val Tyr Gly Tyr Val Thr Leu Tyr Val Cys
 195 200 205
 Ser Phe Val Leu Asp Gln Val Val Asn Ser Ala Arg Gln Ser Val Gln
 210 215 220
 Phe Phe Ile Ile Ser Asn Lys Tyr Glu Glu Ile Gly Gln Arg Ile Asn
 225 230 235 240
 Glu Tyr Pro His Arg Gly Val Thr Ile Ile Asn Gly Thr Gly Ile Leu
 245 250 255
 Tyr Arg Ala Arg Ala Lys Arg
 260

<210> 9445
<211> 274
<212> PRT
<213> B.fragilis

<400> 9445

Arg	Gln	Leu	Pro	Gly	Thr	Arg	Arg	Arg	Ser	Phe	His	Arg	Arg	Ile	
1						5				10				15	
Arg	Arg	Arg	Lys	Phe	Trp	Ile	Arg	Arg	Trp	Arg	Arg	Phe	Gln	Arg	Trp
						20			25					30	
Lys	Leu	Arg	Arg	Arg	Phe	Arg	Trp	Arg	Trp	Arg	Cys	Arg	Leu	Thr	Phe
						35			40					45	
Leu	Lys	Lys	Ser	Ile	His	Lys	Ile	Cys	Glu	Ser	Gly	Ile	Lys	Val	Phe
						50			55					60	
Ala	Pro	Ser	Asp	Leu	His	Glu	Ser	Leu	Ile	Ser	Asn	Thr	Lys	Arg	Asn
						65			70			75			80
Asn	Met	Lys	Lys	Ser	Val	Ile	Ile	Leu	Ile	Ala	Val	Val	Ala	Val	Ile
						85			90					95	
Ile	Ile	Trp	Ala	Ile	Ser	Ala	Tyr	Asn	Gly	Leu	Val	Ser	Met	Asp	Glu
						100			105					110	
Asn	Val	Ser	Ser	Gln	Trp	Ala	Asn	Val	Glu	Thr	Gln	Tyr	Gln	Arg	Arg
						115			120			125			
Ala	Asp	Leu	Ile	Pro	Asn	Leu	Val	Asn	Thr	Val	Lys	Gly	Tyr	Ala	Ser
						130			135			140			
His	Glu	Lys	Glu	Thr	Leu	Glu	Gly	Val	Val	Glu	Ala	Arg	Ser	Lys	Ala
						145			150			155			160
Thr	Gln	Ile	Lys	Val	Asp	Ala	Asn	Asp	Leu	Thr	Pro	Glu	Lys	Leu	Ala
						165			170			175			
Glu	Tyr	Gln	Lys	Ala	Gln	Gly	Ala	Val	Thr	Ser	Ala	Leu	Gly	Lys	Leu
						180			185			190			
Leu	Ala	Ile	Thr	Glu	Asn	Tyr	Pro	Asp	Leu	Lys	Ala	Asn	Gln	Asn	Phe
						195			200			205			
Leu	Glu	Leu	Gln	Ala	Gln	Leu	Glu	Gly	Thr	Glu	Asn	Arg	Ile	Asn	Val
						210			215			220			
Ala	Arg	Lys	Asn	Phe	Asn	Asp	Ala	Ala	Gln	Ala	Tyr	Asn	Thr	Ser	Ile
						225			230			235			240
Arg	Arg	Phe	Pro	Lys	Ser	Ile	Phe	Ala	Ser	Val	Phe	Gly	Phe	Glu	Lys
						245			250			255			
Arg	Thr	Tyr	Phe	Glu	Ala	Thr	Glu	Gly	Thr	Glu	Lys	Ala	Pro	Glu	Val
						260			265			270			
Lys	Phe														

<210> 9446
<211> 862
<212> PRT
<213> B.fragilis

<400> 9446

Arg	Lys	Ile	Pro	Val	Leu	Arg	Phe	Lys	Arg	Asn	Lys	His	Val	Pro	
1						5			10					15	
Ile	Gly	Ala	Ser	Ile	Asn	Val	Gln	Ile	Cys	Gln	Cys	Phe	Asn	Ile	Met
						20			25					30	
Ser	Tyr	Thr	Ile	Glu	Ser	Ile	Val	Glu	Lys	Ile	Gly	Ala	Arg	Arg	Leu
						35			40					45	
Gly	Asn	Lys	Pro	Ala	Ala	Ile	Asp	Trp	Leu	Leu	Thr	Asp	Ser	Arg	Ser
						50			55			60			
Leu	Cys	Phe	Pro	Glu	Glu	Thr	Leu	Phe	Phe	Ala	Ile	Pro	Thr	Lys	Arg

65	70	75	80
Asn Asn Gly Ala Arg Tyr Ile Pro Asp Leu Tyr Glu Arg Gly Val Arg			
	85	90	95
Asn Phe Val Val Thr Ser Glu Asp Phe Lys Gly Leu Thr Met Asp Ser			
	100	105	110
Glu Gln Leu Lys Val Thr Met Ala Gln Glu Cys Asn Phe Leu Ile Ala			
	115	120	125
Pro Asn Thr Leu Lys Ala Leu Gln Lys Leu Ala Glu Gln His Arg Gly			
	130	135	140
Ser Phe Gln Ile Pro Val Val Gly Ile Thr Gly Ser Asn Gly Lys Thr			
	145	150	155
Ile Val Lys Glu Trp Leu His Gln Leu Leu Ser Pro Asp Arg Val Ile			
	165	170	175
Val Arg Ser Pro Arg Ser Tyr Asn Ser Gln Ile Gly Val Pro Leu Ser			
	180	185	190
Val Trp Gln Met Asn Glu Glu Ser Glu Leu Gly Ile Phe Glu Ala Gly			
	195	200	205
Ile Ser Glu Met Gly Glu Met Arg Pro Leu Gln Asn Met Ile Lys Pro			
	210	215	220
Thr Ile Gly Ile Leu Thr Asn Ile Gly Gly Ala His Gln Glu Asn Phe			
	225	230	235
Phe Ser Leu Gln Glu Lys Cys Met Glu Lys Leu Ser Leu Phe Lys Asp			
	245	250	255
Cys Asp Val Val Ile Tyr Asn Gly Asp Asn Glu Met Ile Ser Asn Cys			
	260	265	270
Val Gly Lys Ser Met Leu Thr Ala Arg Glu Ile Ala Trp Ser Met Arg			
	275	280	285
Asp Ile Glu Arg Pro Leu Tyr Ile Ser Arg Val Glu Lys Lys Glu Asp			
	290	295	300
His Thr Val Ile Ser Tyr Arg Tyr Leu Glu Met Asp Asn Thr Phe Cys			
	305	310	315
Ile Pro Phe Ile Asp Asp Ala Ser Ile Glu Asn Ser Leu Asn Cys Leu			
	325	330	335
Ala Ala Cys Leu Tyr Leu Met Val Pro Ala Asp Gln Ile Thr Glu Arg			
	340	345	350
Met Ala Arg Leu Glu Pro Val Ala Met Arg Leu Glu Val Lys Asp Gly			
	355	360	365
Lys Asn Asn Cys Ile Leu Ile Asn Asp Ser Tyr Asn Ser Asp Leu Ala			
	370	375	380
Ser Leu Asp Ile Ala Leu Asp Phe Leu Tyr Arg Arg Ser Gln Ser Lys			
	385	390	395
Gly Leu Lys Arg Thr Leu Ile Leu Ser Asp Ile Leu Glu Thr Gly Gln			
	405	410	415
Ser Thr Thr Thr Leu Tyr Arg Lys Val Ala Gln Leu Val His Ser Arg			
	420	425	430
Gly Ile Glu Lys Ile Ile Gly Val Gly Ala Glu Ile Ser Ser Cys Ala			
	435	440	445
Ser Lys Phe Asp Ile Glu Lys Tyr Phe Phe Pro Asp Thr Lys Ala Leu			
	450	455	460
Leu Ala Ser Asp Val Ile Lys Lys Leu Arg Asn Glu Ile Ile Leu Ile			
	465	470	475
Lys Gly Ser Arg Asn Phe Gly Phe Asp Leu Val Ser Glu Glu Leu Glu			
	485	490	495
Leu Lys Val His Glu Thr Ile Leu Glu Val Asn Leu Gly Ala Met Val			
	500	505	510
Ala Asn Leu Asn His Tyr Arg Ser Met Leu Lys Pro Glu Thr Lys Met			
	515	520	525
Val Cys Met Val Lys Ala Ser Ala Tyr Gly Ala Gly Ser Tyr Glu Ile			
	530	535	540

Ala Lys Thr Leu Gln Glu His His Ala Asp Tyr Leu Ala Val Ala Val
 545 550 555 560
 Ala Asp Glu Gly Ser Asp Leu Arg Lys Ala Gly Ile Thr Ala Ser Ile
 565 570 575
 Ile Ile Met Asp Pro Glu Leu Thr Ala Phe Lys Thr Met Phe Asp Tyr
 580 585 590
 Lys Leu Glu Pro Glu Val Tyr Asn Phe His Leu Leu Asp Ala Leu Ile
 595 600 605
 Lys Ala Ala Glu Lys Glu Gly Ile Thr Asn Phe Pro Ile His Val Lys
 610 615 620
 Leu Asp Thr Gly Met His Arg Leu Gly Phe Glu Glu Lys Asp Ile Pro
 625 630 635 640
 Gln Leu Ile Arg Arg Leu Lys Asn Gln Asn Ala Leu Ile Pro Arg Ser
 645 650 655
 Val Phe Ser His Phe Val Gly Ser Asp Ser Ala Gln Phe Asp Ala Phe
 660 665 670
 Thr Arg Gln Gln Ile Glu Arg Tyr Glu Lys Met Ser Lys Glu Leu Gln
 675 680 685
 Asp Ala Phe Pro His Lys Ile Leu Arg His Ile Cys Asn Thr Ala Gly
 690 695 700
 Ile Glu Arg Phe Pro Gly Ala Gln Phe Asp Met Val Arg Leu Gly Ile
 705 710 715 720
 Gly Leu Tyr Gly Ile Ser Pro Ile Asp Asn Ser Ile Ile Asn Asn Val
 725 730 735
 Ser Thr Leu Lys Thr Thr Ile Leu Gln Ile Arg Asp Val Ala Glu Glu
 740 745 750
 Asp Thr Val Gly Tyr Ser Arg Lys Gly His Leu Ile Arg Pro Ser Arg
 755 760 765
 Ile Ala Ala Ile Pro Ile Gly Tyr Ala Asp Gly Leu Asn Arg His Leu
 770 775 780
 Gly Cys Gly His Gly Tyr Cys Leu Val Asn Gly Lys Lys Ala Pro Tyr
 785 790 795 800
 Val Gly Asn Ile Cys Met Asp Val Cys Met Ile Asp Val Thr Asp Ile
 805 810 815
 Asp Cys Arg Glu Gly Asp Gln Ala Ile Ile Phe Gly Asp Glu Leu Pro
 820 825 830
 Ile Thr Ala Leu Ser Asp Ala Leu Glu Thr Ile Pro Tyr Glu Val Leu
 835 840 845
 Thr Gly Ile Ser Thr Arg Val Lys Arg Val Tyr Tyr Gln Asp
 850 855 860

<210> 9447

<211> 96

<212> PRT

<213> B.fragilis

<400> 9447

Lys Asn Glu Thr Ala Leu Leu Ile Ile Cys Lys Phe Arg Tyr Lys Asn
 1 5 10 15
 Pro Pro Ala Leu Ala Leu Val Asp His Asp Ile Arg Gln Glu Ser Gly
 20 25 30
 Asp Phe Tyr Ile Pro Thr Phe Phe Ile Phe Leu Leu Lys Pro Ile Ser
 35 40 45
 Gly Pro Val Ile Phe Val Thr Tyr Asn Phe Asp Arg Lys Val Ala Phe
 50 55 60
 Thr Gln Tyr Ile Asn Tyr Lys Thr Lys Tyr Leu Phe Val Tyr Ile Pro
 65 70 75 80
 Lys Ala Thr Val Glu Asn Leu Phe Gln Ala Ala Thr Lys Val His Leu
 85 90 95

. <210> 9448
 <211> 169
 <212> PRT
 <213> B.fragilis

<400> 9448
 Ile Pro Ile Ala Met Ser Ser Asn Ile Phe Leu Thr Ile Ala Ile Val
 1 5 10 15
 Thr Thr Gly Ile Phe Ala Val Gln Phe Ile Leu Ser Ile Phe Phe Gly
 20 25 30
 Asp Ile Asp Ala Asp Ala Asp Ile Asp Thr Asp Ile Ser Ser Val Val
 35 40 45
 Ser Phe Lys Gly Leu Thr His Phe Gly Ile Gly Phe Gly Trp Tyr Met
 50 55 60
 Tyr Leu Gln His Asn Thr Glu Ile Gln Thr Tyr Leu Thr Gly Val Ala
 65 70 75 80
 Ile Gly Leu Ile Phe Val Phe Ala Val Trp Phe Leu Tyr Lys Lys Ala
 85 90 95
 Tyr Gln Leu Gln Gln Thr Thr His Ser Glu Arg Thr Glu Gln Leu Val
 100 105 110
 Gly Arg Glu Cys Thr Ile Tyr Phe Lys Gln Asn Glu Lys Lys Tyr Thr
 115 120 125
 Val Gln Ile Ser Arg Asp Gly Ala Met Arg Glu Ile Asp Val Val Thr
 130 135 140
 Glu Ser Gly Lys Ser Tyr Gln Thr Gly Asp Lys Ala Thr Ile Thr Ser
 145 150 155 160
 Tyr Lys Asp Gly Thr Leu Tyr Ile Gln
 165

<210> 9449
 <211> 525
 <212> PRT
 <213> B.fragilis

<400> 9449
 Leu Asn Asp Ala Asp Met Met Gly Leu Phe Phe Val Tyr Ile Val Lys
 1 5 10 15
 Ser Ser Val Cys Leu Ala Gly Phe Tyr Leu Phe Tyr Arg Leu Leu Leu
 20 25 30
 Ser Lys Glu Thr Phe His Arg Phe Asn Arg Ile Ala Leu Leu Thr Leu
 35 40 45
 Leu Leu Leu Ser Leu Leu Leu Pro Leu Val Gln Leu Thr Thr Ile Glu
 50 55 60
 Gln Thr Glu Val His Gln Thr Met Leu Thr Ile Glu Gln Leu Leu Met
 65 70 75 80
 Met Ala Asp Met Pro Val Ser Glu Val Thr Pro Ala Glu Ala Val Thr
 85 90 95
 Leu Ser Gly Ile Gln Ile Leu Leu Met Val Tyr Leu Ser Gly Val Leu
 100 105 110
 Phe Phe Ala Cys Arg His Ile Tyr Ser Leu Gly Arg Leu Leu Met Leu
 115 120 125
 Leu Arg Ser Gly Glu Lys Glu Lys Met Glu Asn Gly Met Thr Leu Val
 130 135 140
 Ile His Gln Gln Lys Ile Ser Pro Phe Ser Trp Met Lys Tyr Ile Val
 145 150 155 160
 Ile Ser Lys Val Asp Leu Glu Glu Asp Gly Arg Glu Ile Leu Ile His
 165 170 175
 Glu Ala Ala His Val Arg Asn Arg His Ser Val Asp Leu Leu Ile Ala

180	185	190
Asp Ile Cys Ile Phe Phe Gln Trp	Phe Asn Pro Ala Ser	Trp Leu Leu
195	200	205
Lys Gln Glu Leu Gln Asn Ile His	Glu Tyr Glu Ala Asp Glu Ser Val	
210	215	220
Ile Arg Glu Gly Val Asn Ala Arg Gln Tyr Gln	Leu Leu Leu Ile Lys	
225	230	235
Lys Ala Val Gly Thr Arg Leu Tyr Ser Met Ala Asn Ser Phe Asn His		240
245	250	255
Ser Lys Leu Lys Lys Arg Ile Thr Met Met Leu Lys Glu Lys Ser Asn		
260	265	270
Pro Trp Ala Arg Leu Lys Tyr Leu Tyr Val Leu Pro Leu Ala Ala Ile		
275	280	285
Ala Val Thr Ala Phe Ala Arg Pro Glu Ile Ser Gly Lys Met Asp Glu		
290	295	300
Ile Ser Ala Val Lys Val Asn Asp Phe Val Gln Ile Val Gly Thr Lys		
305	310	315
Val Pro Glu Lys Lys Val Glu Val Leu Lys Asp Thr Val Lys Lys Asp		320
325	330	335
Ala Pro Lys Glu Ala Phe Glu Val Ser Arg Leu Glu Thr Val Pro		
340	345	350
Thr His Ser Lys Val Thr Ile Thr Asp Gly Met Lys Arg Ser Gly Met		
355	360	365
Asp Leu Phe Ser Val Arg Asn Ala Gly Ser Gln Pro Gln Pro Leu Ile		
370	375	380
Leu Val Asp Gly Lys Glu Ile Thr Gly Glu Gln Met Gln Arg Asp Ile		
385	390	395
Asn Pro Asp Met Ile Glu Ser Ile Ser Val Leu Lys Asp Glu Ala Ser		400
405	410	415
Thr Ala Ile Tyr Gly Asp Lys Ala Lys His Gly Val Ile Leu Ile Thr		
420	425	430
Leu Lys Gly Lys Asp Val Gln Asn Val Leu Ser Leu Ser Ala Ser Asp		
435	440	445
Ser Glu Asp Gly Val Lys Val Val Gly Val Val Lys Asp His Leu Asp		
450	455	460
Lys Pro Leu Ala Gly Ala Ser Val Phe Ile Ser Gly Thr Val Ser Gly		
465	470	475
Thr Met Ser Asp Ala Tyr Gly Arg Phe Val Leu Leu Ala Pro Lys Asn		480
485	490	495
Ala Met Leu Arg Ile Ser Tyr Thr Gly Met Thr Thr Val Glu Lys Ala		
500	505	510
Val Ala Pro Glu Val Asn Val Thr Leu Asn Pro Ala Asp		
515	520	525

<210> 9450

<211> 272

<212> PRT

<213> B.fragilis

<400> 9450

Ile Ser Thr Ala Phe Leu Leu Ile Met Ala Glu Ile Lys Glu Leu Thr		
1	5	10
15		
Phe Trp Asp His Leu Asp Glu Leu Arg Arg Val Leu Phe Arg Ile Ile		
20	25	30
Gly Val Trp Phe Val Leu Ala Val Gly Tyr Phe Ile Ala Met Pro Tyr		
35	40	45
Leu Phe Asp Arg Val Ile Leu Ala Pro Cys His Asn Asp Phe Ile Phe		
50	55	60
Tyr His Leu Leu Arg Asp Ile Gly Gln Ala Phe Asp Leu Thr Asp Asp		

65	70	75	80
Phe Phe Thr Arg Glu	Phe Lys Val Lys	Leu Val Asn Ile Asn	Leu Ala
	85	90	95
Ala Pro Phe Phe Ile His Met Ser	Thr Ala Phe Trp Met	Ser Val Val	
100	105		110
Thr Ala Thr Pro Tyr Leu Phe Phe	Glu Ile Trp Arg Phe	Ile Arg Pro	
115	120		125
Ala Leu Tyr Pro Asn Glu Arg	Lys Gly Val Arg	Lys Ala Leu Thr Ile	
130	135		140
Gly Thr Val Met Phe Phe Ile	Gly Val Leu	Gly Tyr Phe Met Val	
145	150	155	160
Tyr Pro Leu Thr Leu Arg Phe Leu	Ser Thr Tyr Gln	Leu Ser Ala Glu	
165	170		175
Ile Glu Asn Gln Ile Ser Leu Asn	Ser Tyr Ile Asp Asn	Phe Met Met	
180	185		190
Leu Val Leu Cys Met Gly Leu	Ala Phe Glu Leu Pro	Leu Val Thr Trp	
195	200		205
Leu Leu Ser Leu Leu Gly	Leu Val Asn Lys	Ser Phe Leu Arg Lys Tyr	
210	215		220
Arg Arg His Ala Ile Val	Leu Ile Val Ile	Ala Ala Val Ile Thr	
225	230	235	240
Pro Thr Gly Asp Pro Phe Thr	Leu Ser Ile Val	Ala Ile Pro Leu Tyr	
245	250		255
Leu Leu Tyr Glu Met Ser Ile Leu Met	Ile Lys Asp Lys	Asn Arg Ser	
260	265		270

<210> 9451

<211> 1043

<212> PRT

<213> B.fragilis

<400> 9451

Ser Lys Tyr Tyr Gln	Leu Leu Asn Gly	Thr Trp Lys Phe Tyr	Phe Val
1	5	10	15
Asp Ser Tyr Lys Asn	Leu Pro Ala Asn Ile	Thr Asp Pro Ala	Ile Ser
20	25		30
Thr Ala Asp Trp Ala Asp	Ile Lys Val Pro	Gly Asn Trp Glu Val	Gln
35	40		45
Gly His Gly Val Ala Ile	Tyr Thr Asn His	Gly Tyr Glu Phe	Gln Pro
50	55		60
Arg Asn Pro Gln Pro	Pro Thr Leu Pro	Glu Ala Asn Pro	Val Gly Val
65	70	75	80
Tyr Arg Arg Asp Ile Asp	Ile Pro Ala Asp	Trp Asp Gly Arg	Asp Ile
85	90		95
Tyr Leu His Leu Ala	Gly Ala Lys	Ser Gly Val Tyr	Val Tyr Ile Asn
100	105		110
Gly Gln Glu Val	Gly Tyr Ser	Glu Asp Ser Lys	Asn Ser Ala Glu Phe
115	120		125
Leu Ile Asn Lys Phe	Val Lys Pro	Gly Lys Asn Val	Leu Thr Leu Lys
130	135		140
Ile Tyr Arg Trp Ser	Thr Gly Ser	Tyr Leu Glu Cys	Gln Asp Phe Trp
145	150	155	160
Arg Ile Ser Gly Ile	Glu Arg Asp Val	Phe Leu Tyr Ser	Gln Pro Lys
165	170		175
Ala Ala Leu Lys Asp	Phe Arg Val	Thr Ser Thr	Leu Asp Asp Thr Tyr
180	185		190
Lys Asp Gly Ile Phe	Lys Leu Gly	Val Asp Leu Arg	Asn Asn Gly Ser
195	200		205
Thr Ala Gly Asn Met	Thr Leu Val	Tyr Glu Leu	Leu Asp Ala Asn Gly

210	215	220
Lys Val Val Ala Thr Gly Glu Lys Ala Thr Asn Val Ala Ala Gly Glu		
225	230	235
Thr Arg Thr Met Ser Phe Asp Gln Thr Leu Pro Asp Val Lys Thr Trp		240
245	250	255
Thr Ser Glu Ala Pro Asn Leu Tyr Lys Leu Val Met Thr Val Lys Glu		
260	265	270
Asn Gly Lys Val Asn Glu Ile Ile Pro Phe Asn Val Gly Phe Arg Arg		
275	280	285
Ile Glu Ile Lys Pro Thr Glu Gln Leu Ala Arg Asn Gly Lys Pro Tyr		
290	295	300
Val Cys Leu Phe Ile Asn Gly Gln Pro Leu Lys Leu Lys Gly Val Asn		
305	310	315
Ile His Glu His Asn Pro Ala Thr Gly His Tyr Met Thr Glu Glu Leu		
325	330	335
Met Arg Lys Asp Phe Glu Leu Met Lys Gln His Asn Leu Asn Thr Val		
340	345	350
Arg Leu Cys His Tyr Pro Gln Asp Arg Arg Phe Tyr Glu Leu Cys Asp		
355	360	365
Glu Tyr Gly Leu Tyr Val Tyr Asp Glu Ala Asn Ile Glu Ser His Gly		
370	375	380
Met Tyr Tyr Asp Leu Ala Lys Gly Gly Thr Leu Gly Asn Asn Pro Glu		
385	390	395
Trp Leu Lys Ala His Met Asp Arg Thr Ile Asn Met Phe Glu Arg Asn		
405	410	415
Lys Asn Tyr Pro Ser Leu Thr Phe Trp Ser Leu Gly Asn Glu Ala Gly		
420	425	430
Asn Gly Tyr Asn Phe Tyr Gln Thr Tyr Leu Trp Val Lys Asn Ala Asp		
435	440	445
Lys Asp Ile Met Asn Arg Pro Val Asn Tyr Glu Arg Ala Gln Trp Glu		
450	455	460
Trp Asn Ser Asp Met Tyr Val Pro Gln Tyr Pro Gly Ala Asp Trp Leu		
465	470	475
Glu Ala Met Gly Lys Arg Gly Ser Asp Arg Pro Ile Val Pro Ser Glu		
485	490	495
Tyr Ser His Ala Met Gly Asn Ser Asn Gly Asn Leu Trp Asp Gln Trp		
500	505	510
Lys Ala Ile Tyr Lys Tyr Pro Asn Leu Gln Gly Tyr Ile Trp Asp		
515	520	525
Trp Val Asp Gln Gly Ile Asp Ala Val Asp Glu Asn Gly Arg His Phe		
530	535	540
Trp Thr Tyr Gly Gly Asp Tyr Gly Val Asn Thr Pro Asn Asp Gly Asn		
545	550	555
Phe Asn Cys Asn Gly Ile Val Ser Pro Asp Arg Thr Pro His Pro Ala		
565	570	575
Met Ala Glu Val Lys Tyr Val His Gln Asn Val Ala Phe Glu Ala Val		
580	585	590
Asp Pro Ala Asn Gly Lys Phe Leu Val Lys Asn Arg Phe Tyr Phe Thr		
595	600	605
Asn Leu Gln Lys Tyr Met Ile Ser Tyr Thr Ile Lys Ala Asn Gly Lys		
610	615	620
Thr Val Lys Gly Gly Lys Met Ser Val Asn Val Glu Pro Gln Gly Ser		
625	630	635
Lys Glu Ile Thr Ile Ala Thr Ser Gly Leu Lys Ser Lys Pro Gly Thr		
645	650	655
Glu Tyr Phe Ile Tyr Phe Asn Val Thr Thr Glu Pro Glu Pro Leu		
660	665	670
Ile Pro Val Gly His Glu Ile Ala Tyr Glu Gln Phe Arg Leu Pro Ile		
675	680	685

Glu Pro Gly Glu Arg Thr Phe Ala Thr Gly Gly Pro Ala Leu Lys Val
 690 695 700
 Ser Ala Glu Gly Asn Glu Leu Thr Ala Ser Ser Ser Lys Val Asn Phe
 705 710 715 720
 Val Phe Asp Lys Lys Thr Gly Leu Val Ser Ser Tyr Lys Val Gly Gly
 725 730 735
 Thr Glu Tyr Phe Lys Asp Gly Phe Gly Leu Gln Pro Asn Phe Trp Arg
 740 745 750
 Ala Pro Asn Asp Asn Asp Tyr Gly Asn Gly Asn Pro Lys Arg Leu Gln
 755 760 765
 Val Trp Lys Gln Ser Ser Lys Asn Phe Asn Val Val Asp Ala Asn Ile
 770 775 780
 Val Met Asp Gly Lys Asp Ala Val Leu Thr Ala Asn Tyr Leu Leu Ala
 785 790 795 800
 Ala Gly Asn Leu Tyr Ile Val Thr Tyr Arg Ile Ser Pro Ser Gly Val
 805 810 815
 Val Lys Ala Asp Phe Thr Phe Thr Ser Thr Asp Met Glu Ala Ala Lys
 820 825 830
 Thr Glu Ala Ser Glu Ala Thr Leu Met Ala Thr Phe Thr Pro Gly Ser
 835 840 845
 Asp Ala Ala Arg Lys Ala Ala Ser Lys Leu Glu Val Pro Arg Ile Gly
 850 855 860
 Val Arg Phe Arg Leu Pro Ala Glu Met Asn Gln Val Glu Tyr Phe Gly
 865 870 875 880
 Arg Gly Pro Glu Glu Asn Tyr Ile Asp Arg Asn Ala Gly Thr Leu Ile
 885 890 895
 Asp Leu Tyr Lys Thr Thr Ala Asp Gln Met Tyr Phe Pro Tyr Val Arg
 900 905 910
 Pro Gln Glu Asn Gly His His Thr Asp Thr Arg Trp Leu Thr Leu Asn
 915 920 925
 Lys Lys Gly Gly Lys Gly Leu Thr Ile Tyr Ala Asp Lys Thr Ile Gly
 930 935 940
 Phe Asn Ala Leu Arg Asn Ser Val Glu Asp Phe Asp Gly Glu Glu Thr
 945 950 955 960
 Val Ser Arg Pro Tyr Gln Trp Leu Asn Arg Asp Ala Gly Glu Leu Val
 965 970 975
 His Asp Glu Ser Lys Ala Lys Asp Gln Leu Pro Arg Lys Thr His Ile
 980 985 990
 Asn Asp Ile Thr Pro Arg Asn Phe Val Glu Val Cys Val Asp Met Lys
 995 1000 1005
 Gln Gln Gly Val Ala Gly Tyr Asn Ser Trp Gly Ala Arg Pro Glu Pro
 1010 1015 1020
 Gly Tyr Asn Ile Pro Ala Asn Gln Glu Tyr Lys Trp Gly Phe Thr Ile
 1025 1030 1035 1040
 Val Pro Arg

<210> 9452

<211> 100

<212> PRT

<213> B.fragilis

<400> 9452

Asp Lys Leu Tyr Cys Glu Asp Ala Cys Cys Asp Asn Ser Asn Gly Glu
 1 5 10 15
 Glu Asn Ile Thr Thr His Gly Asn Arg Tyr Leu Met Ile Tyr Phe Ile
 20 25 30
 Asp Ile Val Pro Lys Tyr Thr Pro Leu Ile Phe Ile Cys Lys Gly Lys
 35 40 45

Leu Ile Lys Lys Trp Lys Asn Arg Lys Met Asn Val Tyr Leu Tyr Pro
 50 55 60
 Lys Leu Leu Asn Arg Asn Arg Lys Asn Tyr Glu Asp Asn Pro Thr Leu
 65 70 75 80
 Cys Ser Glu Ser Val Ala Leu Phe Ile Arg Val Gly Cys Leu Cys Thr
 85 90 95
 Arg Ala Tyr Leu
 100

<210> 9453

<211> 397

<212> PRT

<213> B.fragilis

<400> 9453
 Ile Ser Ser His Asn Ser Phe Ile Pro Leu Ser Tyr Lys Lys Ala
 1 5 10 15
 Tyr Phe Leu Ile His Thr Asn Tyr Thr Phe His Ile Phe Ala Val Phe
 20 25 30
 Asn Thr His His Ile Phe Asn Asp Glu Asn Lys Lys Thr Ile Arg Gln
 35 40 45
 Tyr Glu Ile Met Ile Asn Thr Leu Thr Ser Leu Arg Phe Ile Phe Ala
 50 55 60
 Ile Met Val Phe Gly Ala His Cys Tyr Val Ile Asp Asn Val Phe Asn
 65 70 75 80
 Thr His Phe Phe Lys Glu Gly Phe Val Gly Val Ser Phe Phe Val
 85 90 95
 Leu Ser Gly Phe Ser Ile Ala Tyr Asn Tyr Gln Glu Lys Leu Lys Asp
 100 105 110
 Asp Lys Ile Asp Lys Arg Thr Phe Trp Val Ala Arg Ile Ala Arg Ile
 115 120 125
 Tyr Pro Leu His Trp Leu Thr Leu Phe Ile Ala Ala Ile Leu Gly Ser
 130 135 140
 Tyr Val Ile Ala Ser Gly Thr Leu Asp Trp Leu Lys His Phe Leu Ala
 145 150 155 160
 Ser Leu Thr Leu Thr Asn Ala Tyr Ile Pro Arg Ala Asp Tyr Phe Phe
 165 170 175
 Ser Phe Asn Ser Pro Ser Trp Ser Leu Cys Cys Glu Gln Leu Phe Tyr
 180 185 190
 Ile Cys Phe Pro Phe Leu Ile Pro Leu Ala Lys Asn Tyr Lys Tyr Leu
 195 200 205
 Leu Ser Val Phe Gly Ile Val Ala Ile Leu Ile Val Val Gly Met Tyr
 210 215 220
 Phe Thr Pro Glu Asp Glu Ile Lys Gly Phe Trp Tyr Val Asn Pro Ile
 225 230 235 240
 Thr Arg Phe Pro Asp Phe Ile Val Gly Met Leu Leu Phe Gln Leu Tyr
 245 250 255
 Glu Arg Leu Lys Asn Lys Asn Ile Thr Ala Leu Gln Gly Ser Ile Ile
 260 265 270
 Glu Ile Ser Ser Ile Ile Leu Phe Leu Ile Phe Tyr Leu Tyr Ala Ala
 275 280 285
 Asp Ile Pro Lys Val Tyr Arg Tyr Ser Cys Tyr Tyr Trp Leu Pro Val
 290 295 300
 Ala Val Ile Leu Ile Ser Phe Ser Leu Gln Lys Gly Ile Phe Ser Arg
 305 310 315 320
 Ile Leu Ser Asn Arg Phe Leu Val Ile Gly Gly Glu Ile Ser Tyr Ser
 325 330 335
 Phe Tyr Leu Ile His Leu Phe Val Leu Leu Thr Tyr Ser Glu Trp Gln
 340 345 350

Lys Glu Asn Asn Leu His Thr Glu Trp Tyr Ile Ser Val Pro Ile Leu
 355 360 365
 Phe Ser Ile Ile Ile Leu Leu Ser Leu Leu Ser Tyr Tyr Tyr Phe Glu
 370 375 380
 Lys Pro Met Asn Lys Arg Val Lys Thr Leu Leu Asn Arg
 385 390 395

<210> 9454
<211> 85
<212> PRT
<213> B.fragilis

<400> 9454
 His Arg Val Lys Ala Cys Ser Leu Asp Val Asn Lys Lys Phe Phe Lys
 1 5 10 15
 Cys Lys Arg Leu Val Ile Cys Ala Gln Glu Pro Asp Asn Arg Gln Lys
 20 25 30
 Thr Leu Thr Met Leu Ile Glu Lys Arg Tyr Lys Asp Glu Asp Thr Gly
 35 40 45
 Ser Asp Gly Val Asn Ser Leu Pro Lys Leu Lys Leu Ser Tyr Ser Ala
 50 55 60
 Gly Val Cys Phe Phe Leu Leu Lys Gln Ala Lys Arg Thr Ile Ile Asn
 65 70 75 80
 Leu Glu Ile Lys Lys
 85

<210> 9455
<211> 262
<212> PRT
<213> B.fragilis

<400> 9455
 Lys Thr Asn Asn Leu Leu Ser Met Ile Ser Pro Leu Ala Tyr Ile His
 1 5 10 15
 Pro Glu Ala Lys Ile Gly Glu Asn Val Glu Ile Ala Pro Phe Val Tyr
 20 25 30
 Ile Asp Arg Asn Val Val Ile Gly Asp Asn Asn Lys Ile Met Ala Asn
 35 40 45
 Ala Asn Ile Leu Tyr Gly Ser Arg Ile Gly Asn Gly Asn Thr Ile Phe
 50 55 60
 Pro Gly Ala Val Ile Gly Ala Ile Pro Gln Asp Leu Lys Phe Lys Gly
 65 70 75 80
 Glu Glu Ser Thr Ala Glu Ile Gly Asp Asn Asn Leu Ile Arg Glu Asn
 85 90 95
 Val Thr Ile Asn Arg Gly Thr Ala Ala Lys Gly Arg Thr Ile Val Gly
 100 105 110
 Asn Asn Asn Leu Leu Met Glu Gly Val His Val Ala His Asp Ala Leu
 115 120 125
 Ile Gly Asn Gly Cys Ile Val Gly Asn Ser Thr Lys Met Ala Gly Glu
 130 135 140
 Ile Ile Ile Asp Asp Asn Ala Ile Ile Ser Ala Asn Val Leu Met His
 145 150 155 160
 Gln Phe Cys Arg Val Gly Gly Tyr Val Met Ile Gln Gly Gly Cys Arg
 165 170 175
 Phe Ser Lys Asp Ile Pro Pro Tyr Ile Ile Ala Gly Arg Glu Pro Ile
 180 185 190
 Ala Tyr Ser Gly Ile Asn Ile Ile Gly Leu Arg Arg Arg Gly Phe Ser
 195 200 205
 Asn Glu Ile Ile Glu Asn Ile His Asn Ala Tyr Arg Ile Ile Tyr Gln

210	215	220													
Ser	Gly	Leu	Asn	Thr	Ser	Asp	Ala	Leu	Thr	Lys	Val	Glu	Ala	Glu	Val
225					230					235					240
Pro	Ala	Ser	Pro	Glu	Ile	Glu	Tyr	Ile	Val	Asp	Phe	Ile	Arg	Asn	Ser
				245					250						255
Glu	Arg	Gly	Ile	Ile	Arg										
			260												

<210> 9456

<211> 389

<212> PRT

<213> B.fragilis

<400> 9456

Leu	Met	Ser	Asn	Gln	Arg	Tyr	Met	Met	Arg	Gly	Val	Ser	Ala	Ser	Lys
1					5				10						15
Glu	Asp	Val	His	Asn	Ala	Ile	Lys	Asn	Ile	Asp	Lys	Gly	Ile	Phe	Pro
						20			25						30
Gln	Ala	Phe	Cys	Lys	Ile	Ile	Pro	Asp	Ile	Leu	Gly	Gly	Asp	Pro	Glu
					35			40							45
Tyr	Cys	Asn	Ile	Met	His	Ala	Asp	Gly	Ala	Gly	Thr	Lys	Ser	Ser	Leu
				50					55						60
Ala	Tyr	Met	Tyr	Trp	Lys	Glu	Thr	Gly	Asp	Leu	Ser	Val	Trp	Lys	Gly
					65			70		75					80
Ile	Ala	Gln	Asp	Ala	Leu	Ile	Met	Asn	Ile	Asp	Asp	Leu	Leu	Cys	Val
					85				90						95
Gly	Ala	Val	Asp	Asn	Ile	Leu	Val	Ser	Ser	Thr	Ile	Gly	Arg	Asn	Lys
					100				105						110
Leu	Leu	Ile	Pro	Gly	Glu	Val	Ile	Ser	Ala	Ile	Ile	Asn	Gly	Thr	Asp
					115			120							125
Glu	Leu	Leu	Ala	Glu	Leu	Arg	Glu	Met	Gly	Val	Gly	Val	Tyr	Ala	Thr
					130			135							140
Gly	Gly	Glu	Thr	Ala	Asp	Val	Gly	Asp	Leu	Val	Arg	Thr	Ile	Ile	Val
					145			150			155				160
Asp	Ser	Thr	Val	Thr	Cys	Arg	Met	Lys	Arg	Ala	Asp	Val	Ile	Asn	Asn
						165			170						175
Ala	Asn	Ile	Arg	Pro	Gly	Asp	Val	Ile	Val	Gly	Leu	Ala	Ser	His	Gly
					180			185							190
Gln	Ala	Thr	Tyr	Glu	Lys	Glu	Tyr	Asn	Gly	Gly	Met	Gly	Ser	Asn	Gly
					195			200							205
Leu	Thr	Ser	Ala	Arg	His	Asp	Val	Phe	Ala	Lys	Tyr	Leu	Ala	Glu	Lys
					210			215							220
Tyr	Pro	Glu	Ser	Tyr	Asp	Ala	Ala	Val	Pro	Glu	Glu	Leu	Val	Tyr	Ser
					225			230			235				240
Gly	Gly	Leu	Lys	Leu	Thr	Asp	Thr	Val	Glu	Gly	Ser	Pro	Ile	Asp	Ala
						245			250						255
Gly	Lys	Leu	Val	Leu	Ser	Pro	Thr	Arg	Thr	Tyr	Ala	Pro	Val	Val	Lys
					260			265							270
Lys	Leu	Leu	Asp	Ala	Leu	Arg	Pro	Glu	Ile	His	Gly	Met	Val	His	Cys
					275			280							285
Ser	Gly	Gly	Ala	Gln	Thr	Lys	Val	Leu	His	Phe	Val	Gly	Asp	Val	Arg
					290			295			300				
Val	Val	Lys	Asp	Asn	Leu	Phe	Pro	Val	Pro	Pro	Leu	Phe	Arg	Thr	Ile
					305			310			315				320
Gln	Glu	Gln	Ser	Gly	Thr	Asp	Trp	Ala	Glu	Met	Tyr	Lys	Val	Phe	Asn
						325			330						335
Met	Gly	His	Arg	Leu	Glu	Val	Tyr	Leu	Ser	Pro	Glu	His	Ala	Ala	Glu
					340			345							350
Val	Ile	Ala	Ile	Ser	Glu	Ser	Phe	Gly	Ile	Pro	Ala	Gln	Ile	Val	Gly

355	360	365
Arg Ile Glu Glu Ser Asp Lys	Lys Glu Leu Ile Ile	Lys Ser Glu Phe
370	375	380
Gly Glu Phe Arg Tyr		
385		

<210> 9457

<211> 86

<212> PRT

<213> B.fragilis

<400> 9457

Val Pro Leu Lys Asp Val Leu Ser Lys	Ile Phe Val Lys Leu Ser Pro
1	5 10 15
Ile Thr Ser Ser Trp Ser Arg Val	Ser Ala Leu Lys Glu Val Leu Leu
20	25 30
Glu Glu Val Cys Lys Tyr Gly Met Asn Ser Thr Cys	Gly Leu Ile Val
35	40 45
Asn Ser Ser Arg Gly Ile Ile Tyr Val Asp Lys	Thr Glu Asn Phe Ala
50	55 60
Ala Ala Ala Arg Ala Ala Ala	Lys Glu Val Gln Glu Gln Met Ala Glu
65	70 75 80
Gln Leu Lys Ala Ile Leu	
85	

<210> 9458

<211> 230

<212> PRT

<213> B.fragilis

<400> 9458

Ile Glu Ile Asn Lys Lys Arg Arg Met	Phe Ser Lys His Pro Pro Phe
1	5 10 15
Leu Trp Asn Lys Pro Ser His Leu Ile Cys Asn Leu Ser Val	Phe Tyr
20	25 30
Tyr Phe Tyr Ala Ile Asn Lys Thr Val Thr Thr Met	Ile Tyr Arg Phe
35	40 45
Thr Ile Ile Ser Asp Glu Val Asp Asp Phe Val Arg	Glu Ile Gln Ile
50	55 60
Asp Pro Glu Ala Thr Phe Asp Leu His Glu Ala Ile Leu Lys Ala	
65	70 75 80
Ala Asn Tyr Thr Asn Asp Gln Met Thr Ser Phe Phe Ile Cys Asp Asp	
85	90 95
Asp Trp Glu Lys Glu Lys Glu Ile Thr Leu Glu Glu Met Asp Asn Asn	
100	105 110
Pro Glu Met Asp Ser Trp Ile Met Lys Glu Thr Arg Leu Asn Glu Leu	
115	120 125
Ile Glu Asp Glu Lys Gln Lys Leu Leu Tyr Val Phe Asp Tyr Met Thr	
130	135 140
Glu Arg Cys Phe Phe Ile Glu Leu Ser Glu Ile Ile Thr Gly Lys Glu	
145	150 155 160
Ile Lys Gly Ala Lys Cys Thr Lys Lys Ser Gly Glu Ala Pro Lys Gln	
165	170 175
Thr Val Asp Phe Glu Glu Met Ala Ala Gly Gly Ser Leu Asp Leu	
180	185 190
Asp Glu Asn Phe Tyr Gly Asp Gln Asp Phe Asp Met Glu Asp Phe Asp	
195	200 205
Ala Glu Gly Phe Asp Val Asn Asp Gly Ala Ala Gly Gly Ser Ser	
210	215 220

Tyr Asp Glu Asp Lys Phe
225 230

<210> 9459

<211> 370

<212> PRT

<213> B.fragilis

<400> 9459

Met Ala Asp Asn Asn Ser Ile Leu Glu Lys Leu Asp Gly Leu Val Ala			
1 5 10 15			
Arg Phe Glu Glu Val Ser Thr Leu Ile Thr Asp Pro Ala Val Ile Ala			
20 25 30			
Asp Gln Lys Arg Tyr Val Lys Leu Thr Lys Glu Tyr Lys Glu Leu Asp			
35 40 45			
Asp Leu Met Lys Ala Arg Lys Glu Tyr Met Gln Leu Leu Ala Asn Ile			
50 55 60			
Glu Glu Ala Lys Asp Ile Leu Ser Asn Glu Ser Asp Ala Asp Met Arg			
65 70 75 80			
Glu Met Ala Lys Glu Glu Met Asp Asn Ser Gln Glu Arg Leu Pro Val			
85 90 95			
Leu Glu Glu Glu Ile Lys Leu Leu Val Pro Ala Asp Pro Gln Asp			
100 105 110			
Gly Lys Asn Ala Ile Leu Glu Ile Arg Gly Gly Thr Gly Gly Asp Glu			
115 120 125			
Ala Ala Ile Phe Ala Gly Asp Leu Phe Arg Met Tyr Ala Lys Phe Cys			
130 135 140			
Glu Thr Lys Gly Trp Lys Met Glu Val Ser Ser Ala Asn Glu Gly Ala			
145 150 155 160			
Ala Gly Gly Tyr Lys Glu Ile Ile Cys Ser Val Thr Gly Asp Asn Val			
165 170 175			
Tyr Gly Thr Leu Lys Tyr Glu Ser Gly Val His Arg Val Gln Arg Val			
180 185 190			
Pro Ala Thr Glu Thr Gln Gly Arg Val His Thr Ser Ala Ala Ser Val			
195 200 205			
Ala Val Leu Pro Glu Ala Glu Glu Phe Asp Val Val Ile Asn Glu Gly			
210 215 220			
Glu Ile Lys Trp Asp Thr Phe Arg Ser Gly Gly Ala Gly Gly Gln Asn			
225 230 235 240			
Val Asn Lys Val Glu Ser Gly Val Arg Leu Arg Tyr Ile Trp Lys Asn			
245 250 255			
Pro Asn Thr Gly Val Ala Glu Glu Ile Leu Ile Glu Cys Thr Glu Thr			
260 265 270			
Arg Asp Gln Pro Lys Asn Lys Glu Arg Ala Leu Ala Arg Leu Arg Thr			
275 280 285			
Phe Ile Tyr Asp Lys Glu His Gln Lys Tyr Ile Asp Asp Ile Ala Ser			
290 295 300			
Lys Arg Lys Thr Met Val Ser Thr Gly Asp Arg Ser Ala Lys Ile Arg			
305 310 315 320			
Thr Tyr Asn Tyr Pro Gln Gly Arg Ile Thr Asp His Arg Ile Asn Tyr			
325 330 335			
Thr Ile Tyr Asn Leu Ala Ala Phe Met Asp Gly Asp Ile Gln Glu Cys			
340 345 350			
Ile Asp Lys Leu Thr Val Ala Glu Asn Ala Glu Arg Leu Lys Glu Ser			
355 360 365			
Glu Leu			
370			

<210> 9460

<211> 130
<212> PRT
<213> B.fragilis

<400> 9460

Ala	Met	Gly	Lys	Pro	Ile	Ile	Arg	Ile	Leu	Tyr	Phe	Gln	Arg	Arg	Gly
1				5				10					15		
Ile	Asp	Ala	Asn	Gly	Tyr	Tyr	Arg	Leu	Asn	Tyr	Ile	Ile	Gln	Arg	Gly
					20			25					30		
Arg	Lys	Ile	Leu	Tyr	Tyr	Ala	Thr	Glu	Thr	Lys	Asp	Phe	Glu	Tyr	Ser
						35		40					45		
Asp	Cys	Phe	Thr	Ser	Ser	Cys	Leu	Ala	Glu	Arg	Lys	Glu	Thr	Ile	Leu
						50		55				60			
Asp	Thr	Ala	Gln	Tyr	Ile	Phe	Lys	Val	His	Lys	Val	Arg	Tyr	Ser	Arg
					65		70		75			80			
Leu	Ile	Leu	Ser	Pro	Ser	Tyr	Ser	Tyr	Ile	Thr	Arg	Tyr	Lys	Ser	Arg
						85		90				95			
Ile	Arg	Gln	Ile	Cys	Thr	Ala	Thr	Arg	Phe	Cys	Lys	Ser	Asp	Ile	Ile
					100		105					110			
Trp	Thr	Met	Cys	Pro	Arg	Ser	Phe	Ile	Pro	Ile	Ser	Lys	Ile	Pro	Phe
					115		120					125			
Ser	Phe														
	130														

<210> 9461
<211> 368
<212> PRT
<213> B.fragilis

<400> 9461

Thr	Asn	Leu	Lys	Ile	Lys	Thr	Met	Lys	Asp	Leu	Leu	Ser	Ile	Val	Ser
1					5			10				15			
Lys	Phe	Lys	Val	Gln	Gly	Thr	Val	Gly	Glu	Ile	Lys	Pro	Leu	Gly	Ala
					20			25				30			
Gly	Leu	Ile	Asn	Asp	Thr	Tyr	Lys	Val	Asn	Thr	Thr	Glu	Ala	Asp	Ala
					35			40				45			
Pro	Asp	Tyr	Val	Leu	Gln	Arg	Ile	Asn	His	Ala	Ile	Phe	Gln	Asn	Val
					50			55				60			
Glu	Met	Leu	Gln	Asp	Asn	Ile	Ala	Ala	Val	Thr	Gly	His	Ile	Arg	Lys
					65			70			75		80		
Lys	Leu	Thr	Glu	Ala	Gly	Glu	Thr	Asp	Val	Asp	Arg	Lys	Val	Leu	Thr
						85		90				95			
Phe	Leu	Pro	Thr	Glu	Glu	Gly	Lys	Thr	Tyr	Trp	Phe	Asp	Gly	Asp	Ser
					100			105				110			
Tyr	Trp	Arg	Val	Met	Val	Phe	Ile	Pro	Arg	Ala	Lys	Thr	Tyr	Glu	Thr
					115			120				125			
Val	Asn	Pro	Glu	Tyr	Ser	Tyr	Tyr	Ala	Gly	Ala	Ala	Phe	Gly	Asn	Phe
					130			135				140			
Gln	Ala	Met	Leu	Ala	Asp	Ile	Pro	Ala	Thr	Leu	Gly	Glu	Thr	Ile	Pro
					145			150			155		160		
Asp	Phe	His	Asn	Met	Glu	Phe	Arg	Leu	Lys	Gln	Leu	Arg	Glu	Ala	Val
						165		170				175			
Ala	Ala	Asn	Ala	Ala	Gly	Arg	Val	Ala	Glu	Val	Gln	Tyr	Tyr	Leu	Asp
						180		185				190			
Glu	Ile	Glu	Lys	Arg	Ala	Asp	Glu	Met	Cys	Lys	Ala	Glu	Arg	Leu	Tyr
					195		200				205				
Arg	Glu	Gly	Lys	Leu	Pro	Lys	Arg	Val	Cys	His	Cys	Asp	Thr	Lys	Val
					210		215				220				
Asn	Asn	Met	Met	Phe	Asp	Glu	Asp	Gly	Lys	Val	Leu	Cys	Val	Ile	Asp

225	230	235	240
Leu Asp Thr Val Met Pro Ser Phe Ile Phe Ser Asp Tyr Gly Asp Phe			
245	250	255	
Leu Arg Thr Gly Ala Asn Thr Gly Asp Glu Asp Asp Lys Asn Leu Asp			
260	265	270	
Asn Val Asn Phe Asn Met Glu Ile Phe Lys Ala Phe Thr Lys Gly Tyr			
275	280	285	
Leu Glu Gly Ala Gly Ser Phe Leu Thr Pro Ile Glu Ile Glu Asn Leu			
290	295	300	
Pro Tyr Ala Ala Ala Leu Phe Pro Tyr Met Gln Cys Val Arg Phe Leu			
305	310	315	320
Ala Asp Tyr Ile Asn Gly Asp Thr Tyr Tyr Lys Ile Lys Tyr Pro Glu			
325	330	335	
His Asn Leu Val Arg Thr Lys Ala Gln Phe Lys Leu Leu Gln Ser Val			
340	345	350	
Glu Glu His Thr Pro Glu Met Glu Ala Tyr Ile Lys Glu Cys Leu Gly			
355	360	365	

<210> 9462

<211> 72

<212> PRT

<213> B.fragilis

<400> 9462

Pro Gly Ser Asn Gly Met Lys Arg Ser Asp Gly Ser Ile Leu Asn Lys			
1	5	10	15
Arg Lys Lys Tyr Tyr Arg Ile Phe Arg Ser Gln Leu Asn Lys Gln Val			
20	25	30	
Tyr Ile Glu Asp Lys Phe Leu Thr Lys Lys Arg Lys Lys Pro Asp Lys			
35	40	45	
Ile Lys Arg Val Thr Lys Gly Ala Leu Leu His Asn Ile Phe Ser Ile			
50	55	60	
Phe Val Asp Asn Lys Asn Ile Pro			
65	70		

<210> 9463

<211> 548

<212> PRT

<213> B.fragilis

<400> 9463

Gln Thr Gln Lys Lys Arg Thr Met Thr Gln Glu Met Met Ile Met Ala			
1	5	10	15
Ala Ile Leu Val Ala Val Ile Leu Ile Thr Phe Ile Gly Ile Leu Ser			
20	25	30	
Arg Tyr Arg Lys Cys Lys Ser Asp Glu Val Leu Val Val Tyr Gly Lys			
35	40	45	
Thr Gly Gly Asp Lys Lys Ser Ala Lys Leu Tyr His Gly Gly Ala Ala			
50	55	60	
Phe Val Trp Pro Ile Val Gln Gly Tyr Glu Phe Leu Ser Met Lys Pro			
65	70	75	80
Met Gln Ile Asp Cys Lys Leu Thr Gly Ala Leu Ser Ala Gln Asn Ile			
85	90	95	
Arg Val Asp Val Pro Thr Thr Ile Thr Val Ala Ile Ser Thr Asp Pro			
100	105	110	
Glu Val Met Gln Asn Ala Ala Glu Arg Met Leu Gly Leu Thr Met Asp			
115	120	125	
Asp Lys Gln Asn Leu Ile Thr Asp Val Val Tyr Gly Gln Met Arg Leu			
130	135	140	

Val Ile Ala Asp Met Thr Ile Glu Glu Leu Asn Ser Asp Arg Asp Lys
 145 150 155 160
 Phe Leu Ser Lys Val Lys Asp Asn Ile Asp Thr Glu Leu Arg Lys Phe
 165 170 175
 Gly Leu Tyr Leu Met Asn Ile Asn Ile Ser Asp Ile Arg Asp Ala Ala
 180 185 190
 Asn Tyr Ile Val Asn Leu Gly Lys Glu Ala Glu Ser Lys Ala Gln Asn
 195 200 205
 Glu Ala Gln Ala Asn Ile Glu Glu Gln Glu Lys Leu Gly Ala Ile Lys
 210 215 220
 Ile Ala Asn Gln Ile Lys Glu Arg Glu Thr Lys Val Ala Glu Thr Arg
 225 230 235 240
 Lys Asp Gln Asp Ile Ala Ile Ala Glu Thr Lys Lys Leu Gln Glu Ile
 245 250 255
 Ser Val Ala Asn Ala Asp Lys Asp Arg Ile Ser Gln Val Ala Ile Ala
 260 265 270
 Asn Ala Glu Lys Glu Ser Gln Val Ala Lys Ala Glu Ala Glu Lys Asn
 275 280 285
 Ile Arg Ile Glu Gln Ala Asn Thr Glu Lys Glu Ser Arg Ile Ala Glu
 290 295 300
 Leu Asn Ser Asp Met Glu Ile Lys Gln Ala Glu Ala Gln Lys Lys Ala
 305 310 315 320
 Ala Ile Gly Arg Asn Glu Ala Gln Lys Glu Ile Ala Leu Ser Asn Ser
 325 330 335
 Glu Leu Ala Val Thr Gln Ala Asn Ala Asp Lys Gln Ala Gly Glu Ala
 340 345 350
 Ser Ala Lys Ser Glu Ala Ala Val Gln Thr Ala Lys Glu Ile Ala Gln
 355 360 365
 Lys Glu Val Glu Glu Ala Lys Ala Arg Lys Val Glu Ser Ser Leu Lys
 370 375 380
 Ala Glu Lys Ile Val Pro Ala Glu Val Ala Arg Gln Glu Ala Ile Leu
 385 390 395 400
 Gln Ala Glu Ala Val Ala Glu Lys Ile Thr Arg Glu Ala Glu Ala Arg
 405 410 415
 Ala Lys Ala Thr Leu Ala Gln Ala Glu Ala Glu Ala Lys Ala Ile Gln
 420 425 430
 Leu Lys Leu Glu Ala Glu Ala Glu Gly Lys Lys Arg Ser Leu Leu Ala
 435 440 445
 Glu Ala Glu Gly Phe Glu Ala Met Val Lys Ala Ala Glu Ser Asn Pro
 450 455 460
 Ala Ile Ala Ile Gln Tyr Lys Met Val Asp Gln Trp Lys Glu Ile Ala
 465 470 475 480
 Gly Glu Gln Val Lys Ala Phe Glu His Ile Asn Leu Gly Asn Ile Thr
 485 490 495
 Val Phe Asp Gly Gly Asn Gly Gly Thr Ser Asn Phe Leu Asn Thr Leu
 500 505 510
 Val Lys Thr Val Ala Pro Ser Leu Gly Val Leu Asp Lys Leu Pro Ile
 515 520 525
 Gly Glu Thr Val Lys Asn Met Ile His Pro Glu Glu Lys Lys Glu Glu
 530 535 540
 Thr Glu Lys Lys
 545

<210> 9464
 <211> 1180
 <212> PRT
 <213> B.fragilis

<400> 9464

Thr Ser Lys Asn Ile Thr Lys Gln Ile Val His Lys Thr Asn Cys Leu
 1 5 10 15
 Gln Lys Leu Arg Tyr Arg Ser Asn Asp Thr Phe Val His Ile Phe Ile
 20 25 30
 Arg Pro His Glu Asn Pro Gly Ile Ile Met Tyr Phe Cys Cys Met Glu
 35 40 45
 Asn Glu Val Asn Glu Ser Phe Glu Ile Leu Leu Ala Ala Cys Arg Thr
 50 55 60
 Ala Asp Ser Asn Leu Ala Val Ala Tyr Lys Gln Leu Arg Asp Leu Leu
 65 70 75 80
 Glu Arg Leu Cys Arg Ala Gln Met Gln Asp Glu Ser Leu Gln Met Thr
 85 90 95
 Asp Leu Ser Ala Arg Ile Ser Phe Val Ser Ala Arg Ala Gly Leu Thr
 100 105 110
 Ile Val Glu Gln Asn Arg Leu His Thr Phe Arg Leu Thr Ser Asn Ala
 115 120 125
 Ile Leu Asn Arg Lys Glu Glu Pro Val Arg Glu Lys Leu Leu Arg Asp
 130 135 140
 Ala Lys Thr Leu Ala Phe Phe Ile Arg Lys Leu Tyr Glu Val Glu Ile
 145 150 155 160
 Pro Gly Glu Leu Tyr His Leu Leu Pro Arg Ala Asp Ala Thr Tyr Leu
 165 170 175
 Val Ala Pro Pro Ala Lys Lys Arg Ile Glu Arg Met Arg Val Cys Tyr
 180 185 190
 Gln Tyr Ala Asp Glu Gln Tyr Leu Tyr Val Thr Pro Val Asp Thr Ile
 195 200 205
 Ala Asp Glu Tyr Leu Arg Ile Arg Tyr Asn Val Pro Gln Ile Asn Glu
 210 215 220
 Glu Phe Ala Gln Thr Cys Glu Ile Leu Trp Cys His Ala Gln Leu Asn
 225 230 235 240
 Leu Leu Asp Val Ala Ile Asp Lys Thr Gly Val Leu Thr Pro Ser Phe
 245 250 255
 Ile Val Leu Glu Pro Asp Tyr Leu Ile Asp Ile Ser Ser Leu Ala Glu
 260 265 270
 Cys Phe Arg Asp Tyr Gly His His Pro Ala Asn Tyr Val Leu Ala Arg
 275 280 285
 Leu Gln Pro Ile Asp Asn Ala Arg Pro Leu Leu Leu Gly Asn Ile Ala
 290 295 300
 Asn Leu Phe Leu Asp Glu Trp Ile His Ala Glu Asn Ala Pro Asp Tyr
 305 310 315 320
 Arg Glu Cys Met Gln Lys Ala Phe Arg Arg Tyr Pro Ile Glu Leu Ala
 325 330 335
 Ala Cys Thr Asp Leu Arg Asp Arg Glu Lys Glu Arg Gln Phe Phe Asp
 340 345 350
 Asp Cys Lys Leu His Phe Glu His Ile Arg Glu Val Val Thr Asp Thr
 355 360 365
 Phe Arg Ala Pro Gly Tyr Glu Leu Asp Lys Thr Asp Ala Val Leu Glu
 370 375 380
 Pro Ser Tyr Ile Cys Glu Ala Leu Gly Leu Gln Gly Arg Leu Asp Tyr
 385 390 395 400
 Met Gln Arg Asp Met Ser Ser Phe Ile Glu Met Lys Ser Gly Lys Ala
 405 410 415
 Asp Glu Phe Ser Ile Arg Asn Lys Val Glu Pro Lys Glu Asn Asn Lys
 420 425 430
 Val Gln Met Leu Leu Tyr Gln Ala Val Leu Gln Tyr Ser Met Gly Met
 435 440 445
 Asp His His Arg Val Lys Ala Tyr Leu Leu Tyr Thr Arg Tyr Pro Leu
 450 455 460
 Leu Tyr Pro Ala Arg Pro Ser Trp Ala Met Val Arg Arg Ile Ile Asn

465	470	475	480
Leu Arg Asn Arg Ile Val Ser Asp Glu Tyr Gly Ile Gln Leu Arg Asn			
485	490	495	
Ser Val Glu Tyr Thr Ala Ser Lys Leu Gln Ala Ile Arg Ser Asp Ile			
500	505	510	
Leu Asn Glu Arg Gly Leu Ser Gly Arg Phe Trp Glu Gln Tyr Leu Arg			
515	520	525	
Pro Ser Ile Asp Asn Leu Ser Gln Lys Leu Ala Ser Leu Thr Pro Leu			
530	535	540	
Glu Gln Ser Tyr Phe Tyr Ala Leu Tyr Asn Phe Ile Thr Lys Glu Leu			
545	550	555	560
Tyr Thr Ser Lys Ser Gly Asp Val Asp Tyr Glu Gly Arg Thr Gly Ser			
565	570	575	
Ala Ala Leu Trp Leu Ser Thr Leu Thr Glu Lys Cys Glu Ala Gly Glu			
580	585	590	
Ile Leu Tyr Asp Leu Arg Ile Lys Glu Asn His Ala Ala Asp Glu His			
595	600	605	
Lys Ala Tyr Ile Leu Leu Glu Gln Arg Lys Glu Gly Tyr Gly Glu Asn			
610	615	620	
Lys Leu Ser Pro Glu Pro Asn Glu Ile Ser Ser Glu Val Glu Lys Gly			
625	630	635	640
Ala Gln Ala Leu Pro Asn Phe Arg Gln Gly Asp Ala Ile Val Leu Tyr			
645	650	655	
Glu Arg Asn Arg Asn Glu Asp Asn Val Thr Asn Lys Met Val Phe Lys			
660	665	670	
Gly Asn Ile Glu Phe Ile Thr Glu Glu Glu Ile Gly Ile Arg Leu Arg			
675	680	685	
Ala Thr Gln Gln Asn Ser Ser Val Leu Pro Pro Asp Ser Leu Tyr Ala			
690	695	700	
Ile Glu His Asp Thr Met Asp Thr Thr Phe Arg Ser Met Tyr Gln Ala			
705	710	715	720
Leu Ser Ala Phe Ala Ser Ala Thr Lys Glu Arg Arg Asp Leu Leu			
725	730	735	
Ala Gln Arg Met Pro Glu Phe Glu Tyr Gly Leu Asp Lys Gln Ile Leu			
740	745	750	
Thr Ala Pro Asp Asp Phe Thr Arg Val Thr Leu Lys Ala Leu Ala Ala			
755	760	765	
Lys Asp Phe Phe Leu Leu Val Gly Pro Pro Gly Thr Gly Lys Thr Ser			
770	775	780	
Cys Ala Leu Lys Lys Met Val Glu Thr Phe His Cys Glu Ala Gln Thr			
785	790	795	800
Gln Ile Leu Leu Ser Tyr Thr Asn Arg Ala Val Asp Glu Ile Cys			
805	810	815	
Lys Ala Ile Ser Ser Ile Arg Pro Glu Val Asp Phe Ile Arg Val Gly			
820	825	830	
Ser Glu Leu Ser Cys Asp Glu Ala Tyr Arg His His Leu Ile Glu Asn			
835	840	845	
Glu Leu Ser Leu Cys Thr Arg Arg Ser Glu Val Ala Glu Arg Ile Ala			
850	855	860	
Arg Cys Arg Ile Phe Val Gly Thr Val Ala Ser Ile Ser Gly Lys Pro			
865	870	875	880
Glu Leu Phe Arg Leu Lys Arg Phe Asp Val Ala Ile Ile Asp Glu Ala			
885	890	895	
Thr Gln Ile Leu Glu Pro Gln Leu Leu Gly Ile Leu Cys Ala Arg Ser			
900	905	910	
Glu Asn Gly Glu Asn Ala Val Gly Lys Phe Ile Leu Ile Gly Asp His			
915	920	925	
Lys Gln Leu Pro Ala Val Val Leu Gln Asn Thr Glu Gln Ser Glu Ile			
930	935	940	

Tyr Asp Glu Gly Leu Arg Ser Ala Gly Leu Lys Asn Leu Lys Asp Ser
 945 950 955 960
 Leu Phe Glu Arg Leu Tyr Arg Thr Leu Gln Thr Ser Ser Glu Asp Leu
 965 970 975
 Phe Pro Asp Ser Ala Ser Val Ser Ala Pro Asn His Arg Ser Phe Asp
 980 985 990
 Met Leu Cys Lys Gln Gly Arg Met His Pro Glu Val Ala His Phe Ala
 995 1000 1005
 Asn Gln Ala Phe Tyr Glu Gly Arg Leu Leu Pro Val Gly Leu Pro His
 1010 1015 1020
 Gln Met Glu Asp Asn Gln Asp Val Gln Arg Met Val Phe Leu Pro Ser
 1025 1030 1035 1040
 Glu Pro Glu Pro Gln Gly Thr Ser Ala Lys Val Asn His Ser Glu Ala
 1045 1050 1055
 Arg Ile Val Ala Arg Ile Ala Ala Asp Val Tyr Gln Gln Tyr Gly Gly
 1060 1065 1070
 Thr Phe Asp Gly Met Arg Thr Leu Gly Ile Ile Thr Pro Tyr Arg Ser
 1075 1080 1085
 Gln Ile Ala Leu Ile Arg Lys Glu Ile Val Lys Met Gly Ile Pro Glu
 1090 1095 1100
 Leu Asn Ser Ile Leu Val Asp Thr Val Glu Arg Phe Gln Gly Ser Glu
 1105 1110 1115 1120
 Arg Asp Val Ile Ile Tyr Ser Phe Cys Val Asn Tyr Pro Tyr Gln Leu
 1125 1130 1135
 Arg Phe Leu Ser Asn Leu Thr Glu Glu Asn Gly Val Phe Ile Asp Arg
 1140 1145 1150
 Lys Leu Asn Val Ala Leu Thr Arg Ala Arg Lys Gln Ser Leu His His
 1155 1160 1165
 Arg Gly Ser Pro Ile Ile Gly Thr Lys Pro Asp Leu
 1170 1175 1180

<210> 9465

<211> 462

<212> PRT

<213> B.fragilis

<400> 9465

Pro Met Leu Lys Gln Lys Thr Leu Lys Glu Ser Phe Ser Leu Arg Gly
 1 5 10 15
 Lys Gly Leu His Thr Gly Leu Asp Leu Thr Val Thr Phe Asn Pro Ala
 20 25 30
 Pro Asp Asn His Gly Tyr Lys Ile Gln Arg Thr Asp Leu Glu Gly Gln
 35 40 45
 Pro Ile Ile Asp Ala Val Ala Asp Asn Val Gly Glu Thr Thr Arg Gly
 50 55 60
 Thr Val Leu Ser Lys Asn Gly Val Lys Val Ser Thr Gly Glu His Gly
 65 70 75 80
 Met Ala Ala Leu Tyr Ala Leu Gly Ile Asp Asn Cys Leu Ile Gln Val
 85 90 95
 Asn Gly Pro Glu Phe Pro Ile Leu Asp Gly Ser Ala Gln Tyr Tyr Val
 100 105 110
 Gln Glu Ile Glu Lys Val Gly Ile Glu Glu Gln Asn Ala Val Lys Asp
 115 120 125
 Phe Tyr Ile Ile Lys Ser Lys Ile Glu Phe Arg Asp Glu Glu Thr Gly
 130 135 140
 Ser Ser Ile Ile Val Leu Pro Asp Glu Asn Phe Ser Leu Asn Val Leu
 145 150 155 160
 Val Ser Tyr Asp Ser Thr Ile Ile Pro Asn Gln Phe Ala Thr Leu Glu
 165 170 175

Asp Met Lys Lys Phe Lys Asp Glu Ile Ala Pro Ser Arg Thr Phe Val
 180 185 190
 Phe Val Arg Glu Ile Glu Pro Leu Leu Ser Ala Gly Leu Ile Lys Gly
 195 200 205
 Gly Asp Leu Asp Asn Ala Ile Val Ile Tyr Glu Arg Glu Met Ser Gln
 210 215 220
 Glu Asn Tyr Asp Lys Leu Ala Asp Val Met Arg Val Pro His Met Asp
 225 230 235 240
 Ala Lys Leu Leu Gly Tyr Ile Asn His Lys Pro Leu Val Trp Pro Asn
 245 250 255
 Glu Cys Ala Arg His Lys Leu Leu Asp Val Ile Gly Asp Leu Ala Leu
 260 265 270
 Ile Gly Lys Pro Ile Lys Gly Arg Ile Ile Ala Thr Arg Pro Gly His
 275 280 285
 Thr Ile Asn Asn Lys Phe Ala Arg Gln Met Arg Lys Glu Ile Arg Leu
 290 295 300
 His Glu Ile Gln Ala Pro Thr Tyr Asp Cys Asn Arg Ala Pro Ile Met
 305 310 315 320
 Asp Val Asn Arg Ile Arg Glu Leu Leu Pro His Arg Tyr Pro Phe Gln
 325 330 335
 Leu Val Asp Lys Val Ile Glu Ile Gly Ala Asn Tyr Ile Val Gly Val
 340 345 350
 Lys Asn Val Thr Ser Asn Glu Pro Phe Phe Gln Gly His Phe Pro Gln
 355 360 365
 Glu Pro Val Met Pro Gly Val Leu Gln Ile Glu Ala Met Ala Gln Ile
 370 375 380
 Gly Gly Leu Leu Val Leu Asn Ser Val Asp Glu Pro Glu Arg Tyr Ser
 385 390 395 400
 Thr Tyr Phe Met Lys Ile Asp Gly Val Lys Phe Arg Gln Lys Val Val
 405 410 415
 Pro Gly Asp Thr Leu Ile Phe Arg Val Glu Leu Leu Ala Pro Ile Arg
 420 425 430
 Arg Gly Ile Ser Thr Met Lys Gly Tyr Ala Phe Val Gly Glu Lys Val
 435 440 445
 Val Cys Glu Cys Glu Phe Met Ala Gln Ile Val Lys Asn Lys
 450 455 460

<210> 9466

<211> 417

<212> PRT

<213> B.fragilis

<400> 9466

Ile Leu Met Asn Ile Arg Leu Thr Ser Leu Phe Val Ser Leu Phe Leu
 1 5 10 15
 Ser Val Pro Val Trp Ala Gly Gly His Lys Asn Leu Pro Ala Lys Gly
 20 25 30
 Asp Leu His Ile Pro Val Phe Glu Asn Val Asn Val Arg Phe Ser Pro
 35 40 45
 Asp Thr Tyr Pro Asp Asn Tyr Asn Glu Ala Asp Gly Thr Gly Val Tyr
 50 55 60
 His Leu Val Asn Gly Arg Ile Ile Leu Lys Lys Ile Thr Leu Pro Glu
 65 70 75 80
 Tyr Lys Arg Asn Val Ser Val Ser Leu Lys Val Thr Leu Ala Ser Asn
 85 90 95
 Gly Asp Arg Trp Asp Lys Ser Gly Ser Cys Phe Val Leu Pro Lys Ser
 100 105 110
 Ser Ala Ile Asn Leu Leu Thr Ile Ala Arg Asp Gly Met Lys Phe Pro
 115 120 125

Ser Val Asp Ser Leu Lys Leu Glu Lys Met Val Gly Ile Val Pro Gly
 130 135 140
 Lys Asp Tyr Leu Pro Thr Val Glu Leu Met Arg Phe Met Thr Pro Phe
 145 150 155 160
 Gly Val Gly His Tyr Ser Asn Asn Asn Asp Ser Leu Ser Ser Lys Arg
 165 170 175
 Arg Pro Val Tyr Ile Pro Lys Trp Glu Ser Asn Val Thr Trp Gln Gln
 180 185 190
 Asp Ile Thr Asp Leu Tyr Pro Leu Leu Glu Gly Glu Ala Tyr Val Gly
 195 200 205
 Ile Tyr Ile Asp Thr Trp Thr Ser Glu Gly Tyr Leu Val Asn Ala Asp
 210 215 220
 Ile Asp Val Lys Glu Ser Arg Leu Ala Cys Asp Val Leu Pro Lys Arg
 225 230 235 240
 His Val Glu Pro Leu Met Asn Thr Val Tyr Tyr Met Gly Gln Ser Tyr
 245 250 255
 Pro Asp Ile Phe Ala Arg Arg Asp Val Ser Thr Asp Phe Thr Val Pro
 260 265 270
 Lys Gly Ala Lys Asn Ile Arg Leu Lys Tyr Ile Val Thr Gly His Gly
 275 280 285
 Gly His Ser Gly Gly Asp Glu Phe Val Gln Lys Arg Asn Ile Ile Ser
 290 295 300
 Val Asp Gly Lys Glu Val Leu Asn Phe Ile Pro Trp Arg Asp Asp Cys
 305 310 315 320
 Ala Ser Phe Arg Arg Phe Asn Pro Ala Thr Gly Val Trp Leu Ile Lys
 325 330 335
 Arg Leu Ala Ser Tyr Ile Gly Glu Lys Gly Tyr Thr Glu Lys Glu Val
 340 345 350
 Glu Glu Pro Leu Ala Ser Ser Asp Leu Ser Arg Ser Asn Trp Cys Pro
 355 360 365
 Gly Ser Asp Val Val Pro Glu Glu Ala Val Ile Gly Thr Leu Ala Pro
 370 375 380
 Gly Lys His Thr Phe Thr Val Ser Ile Pro Glu Ala Gln Ala Val Asp
 385 390 395 400
 Gly Asn Lys Leu Asn His Trp Leu Val Ser Ala Tyr Leu Val Trp Glu
 405 410 415
 Glu

<210> 9467
 <211> 248
 <212> PRT
 <213> B.fragilis

<400> 9467
 Val Lys Met Asn Lys Gln Ser Leu Phe Glu Asn Ile Lys Arg Lys Lys
 1 5 10 15
 Ser Phe Leu Cys Val Gly Leu Asp Thr Asp Ile Lys Lys Ile Pro Asp
 20 25 30
 His Leu Leu Asp Asp Pro Asp Pro Ile Phe Ala Phe Asn Lys Ala Ile
 35 40 45
 Val Asp Ala Thr Ala Asp Tyr Cys Ile Ala Tyr Lys Pro Asn Leu Ala
 50 55 60
 Phe Tyr Glu Ser Met Gly Val Lys Gly Trp Ile Ala Phe Glu Lys Thr
 65 70 75 80
 Val Asn Tyr Ile Lys Glu Asn Tyr Pro Asp Gln Phe Ile Ile Ala Asp
 85 90 95
 Ala Lys Arg Gly Asp Ile Gly Asn Thr Ser Ala Met Tyr Ala Arg Thr
 100 105 110

Phe Phe Glu Glu Leu Asp Ile Asp Ser Val Thr Val Ala Pro Tyr Met
 115 120 125
 Gly Glu Asp Ser Val Thr Pro Phe Leu Ser Tyr Glu Gly Lys Trp Val
 130 135 140
 Ile Leu Leu Ala Leu Thr Ser Asn Lys Gly Ser His Asp Phe Gln Leu
 145 150 155 160
 Thr Glu Asp Ala Asn Gly Glu Arg Leu Phe Glu Lys Val Leu Lys Lys
 165 170 175
 Ser Gln Glu Trp Ala Asn Asp Glu Gln Met Met Tyr Val Val Gly Ala
 180 185 190
 Thr Gln Gly Arg Ala Phe Glu Asp Ile Arg Lys Ile Val Pro Asn His
 195 200 205
 Phe Leu Leu Val Pro Gly Ile Gly Ala Gln Gly Ser Ser Arg Arg
 210 215 220
 Ser Met Gln Ile Trp Tyr Glu Gln His Leu Trp Thr Tyr Cys Glu Phe
 225 230 235 240
 Leu Ser Arg Asn Tyr Leu Cys Arg
 245

<210> 9468

<211> 251

<212> PRT

<213> B.fragilis

<400> 9468

Ile Lys Ser Asn Lys Arg Met Asn Tyr Pro Gln Glu Lys Ile Lys Pro
 1 5 10 15
 Tyr Ser Asn Asp Gly Lys Lys Ser Glu Gln Val Glu Gln Met Phe Asp
 20 25 30
 Asn Ile Ala Pro Ala Tyr Asp Gln Leu Asn His Thr Leu Ser Leu Gly
 35 40 45
 Ile Asp Arg Ser Trp Arg Arg Lys Ala Ile Asn Trp Leu Lys Pro Phe
 50 55 60
 Arg Pro Gln Gln Ile Met Asp Val Ala Thr Gly Thr Gly Asp Phe Ala
 65 70 75 80
 Ile Leu Ala Cys His Glu Leu Gln Pro Glu Gln Leu Ile Gly Thr Asp
 85 90 95
 Ile Ser Glu Gly Met Met Asn Val Gly Arg Glu Lys Val Lys Lys Glu
 100 105 110
 Gly Leu Ser Glu Lys Ile Ser Phe Ala Arg Glu Asp Cys Thr Ser Leu
 115 120 125
 Ser Phe Ala Asp Asn Arg Phe Asp Ala Ile Thr Val Ala Phe Gly Ile
 130 135 140
 Arg Asn Phe Glu Asp Leu Asp Lys Gly Leu Ser Glu Met Tyr Arg Val
 145 150 155 160
 Leu Lys Thr Gly Gly His Leu Val Ile Leu Glu Leu Thr Thr Pro Asp
 165 170 175
 Arg Phe Pro Met Lys Gln Met Phe Thr Ile Tyr Ser Lys Ile Val Ile
 180 185 190
 Pro Thr Leu Gly Lys Leu Leu Ser Lys Asp Asn Ser Ala Tyr Ser Tyr
 195 200 205
 Leu Pro Gln Thr Ile Lys Ala Phe Pro Gln Gly Glu Val Met Lys Asn
 210 215 220
 Val Ile Ser Arg Val Gly Phe Ser Gln Val Gln Phe Arg Arg Leu Thr
 225 230 235 240
 Phe Gly Ile Cys Thr Leu Tyr Thr Ala Thr Lys
 245 250

<210> 9469

<211> 395
<212> PRT
<213> B.fragilis

<400> 9469

Ser	His	Ala	Asn	Met	Ile	Leu	Val	Gln	Ile	Leu	Val	Lys	Asp	Leu	Phe
1				5					10						15
Asn	Met	Ile	Lys	Lys	Ile	Phe	Phe	Ser	Ser	Phe	Leu	Leu	Ile	Ile	Met
				20					25						30
Phe	Cys	Gly	Cys	Met	Thr	Gln	Asn	Glu	Ile	Thr	Gly	Ser	Val	Ala	Lys
				35				40							45
Leu	Glu	Thr	Val	Glu	Lys	Val	Val	Asp	Asp	Thr	Leu	Phe	Leu	Lys	Asn
				50			55				60				
Pro	Gln	Val	Phe	Cys	Leu	Glu	Thr	Lys	Asp	Asn	Ala	Leu	Ile	Lys	Arg
				65			70			75					80
Ile	Asn	Arg	Val	Ile	Glu	Trp	Lys	Asn	Thr	Tyr	Tyr	Ile	Leu	Asp	Lys
				85				90							95
Ser	Met	Lys	Gln	Val	Leu	Ala	Phe	Asn	Asp	Lys	Gly	Arg	His	Leu	Phe
				100				105							110
Thr	Ile	His	Arg	Val	Gly	Ile	Gly	Lys	Gly	Glu	Tyr	Gly	Ser	Ile	Leu
				115				120							125
Asp	Ile	Ala	Ile	Asp	Arg	Gln	Asn	Glu	Asn	Leu	Val	Phe	Leu	Ala	Asp
				130			135			140					
Pro	Thr	Ser	Leu	Ile	Tyr	Tyr	Asp	Leu	Gln	Gly	Asn	Phe	Ile	Lys	Thr
				145			150			155					160
Thr	Lys	Leu	Pro	Gly	Tyr	Tyr	His	Ser	Ile	Ala	Ile	Asp	Asn	Gly	Met
				165				170							175
Ile	Tyr	Leu	Glu	Agn	Glu	Thr	Tyr	Ile	Asn	Asn	Gln	Leu	Ser	Thr	Ser
				180				185							190
Ser	Ile	Thr	Val	Ile	Ala	Pro	Asp	Asn	Gln	Lys	Thr	Glu	Leu	Leu	Lys
				195				200				205			
Pro	Leu	Arg	Glu	Ile	Ala	Pro	Tyr	Cys	Phe	Ile	Gly	Gly	Ser	Arg	Leu
				210			215			220					
Asn	Gly	Thr	Thr	Pro	Ile	Val	Phe	Thr	Arg	Lys	Phe	Asp	Asn	Thr	Ile
				225			230			235					240
Tyr	Gln	Leu	Glu	Asp	Gly	Lys	Ile	Thr	Pro	Tyr	Tyr	Ser	Phe	Asp	Phe
				245				250				255			
Met	Asn	Glu	Asn	Phe	Pro	Glu	Ala	Ala	Lys	Asp	Lys	Glu	Tyr	Thr	Cys
				260				265				270			
Arg	Glu	Leu	Asn	Lys	Phe	Thr	Trp	Asp	Arg	Tyr	Val	Tyr	Leu	Met	Ala
				275				280				285			
Asn	Val	Ala	Asn	Ala	Pro	Gln	Tyr	Leu	Met	Phe	Cys	Thr	Asn	Leu	Phe
				290				295			300				
Gly	Val	Tyr	Val	Phe	Asp	Lys	Met	Gln	Asn	Lys	Leu	Leu	Lys	Tyr	Asn
				305			310			315					320
Lys	Ile	Arg	Asn	Thr	Gly	Tyr	Gln	Thr	Asp	Leu	His	Gln	Tyr	Ile	Pro
				325				330				335			
Val	Glu	Gly	Ala	Asn	Asn	Arg	Val	Phe	Phe	Thr	Val	Tyr	Pro	Thr	Thr
				340				345				350			
Leu	Phe	Ser	Leu	Lys	Ala	Ile	Val	Asp	Asn	His	Pro	Ser	Phe	Lys	Asp
				355				360			365				
Lys	Met	Ser	Asp	Lys	Leu	Tyr	Lys	Leu	Thr	Glu	Ser	Leu	Asp	Ser	Asp
				370			375			380					
Ser	Asn	Pro	Val	Ile	Phe	Ser	Tyr	Gln	Ile	Lys					
				385				390			395				

<211> 9470

<212> 76

<213> PRT

<213> B.fragilis

<400> 9470

Arg	His	Lys	Lys	Gly	Val	Val	Asn	Lys	Val	Asn	Arg	Val	Trp	Val	Val
1				5					10				15		
Gly	Asn	Gly	Ala	Met	Leu	Pro	Tyr	Lys	Val	Tyr	Asn	Lys	Asn	Tyr	Trp
				20					25				30		
Ser	Glu	Val	Pro	Gly	Asn	Leu	Tyr	Ile	Asp	Ile	Pro	Glu	Arg	Val	Gln
				35					40				45		
Asp	Glu	Gln	Ile	Thr	Val	Ile	Ala	Val	Leu	Leu	Asp	Gly	Pro	Ile	Lys
				50					55				60		
Leu	Tyr	Arg	Gly	Val	Gly	Gln	Val	Ile	Glu	Ser	Asn				
				65					70				75		

<210> 9471

<211> 601

<212> PRT

<213> B.fragilis

<400> 9471

Thr	Glu	Ile	Glu	Lys	Thr	Met	Lys	Thr	Ile	Leu	Leu	Phe	Ala	Leu	Ser
1						5				10			15		
Leu	Leu	Leu	Ser	Leu	Ser	Val	Ser	Asp	Val	Cys	Ala	Gln	Glu	Arg	Ile
						20				25			30		
Tyr	Asp	Ile	Ser	Gln	Phe	Gly	Leu	Lys	Ala	Asn	Ser	Lys	Lys	Asn	Ala
						35				40			45		
Ser	Pro	Val	Val	Arg	Lys	Ala	Ile	Ala	Lys	Ile	Lys	Ala	Glu	Cys	Arg
						50				55			60		
Asp	Gly	Glu	Lys	Val	Ile	Leu	Arg	Phe	Pro	Ala	Gly	Arg	Tyr	Asn	Phe
						65				70			75		80
His	Glu	Ala	Gly	Ser	Thr	Val	Arg	Glu	Tyr	Tyr	Ile	Ser	Asn	His	Asp
						85				90			95		
Gln	Asp	Asn	Pro	Lys	Lys	Val	Gly	Ile	Ala	Leu	Glu	Asp	Met	Lys	Asn
						100				105			110		
Leu	Thr	Ile	Asp	Gly	Gln	Gly	Ser	Glu	Phe	Val	Phe	Tyr	Gly	Arg	Met
						115				120			125		
Ile	Pro	Val	Ser	Leu	Leu	Arg	Ser	Glu	Asn	Cys	Val	Leu	Lys	Asn	Phe
						130				135			140		
Ser	Ile	Asp	Phe	Glu	Gln	Pro	His	Ile	Ala	Gln	Val	Gln	Val	Val	Glu
						145				150			155		160
Asn	Asp	Pro	Glu	Lys	Gly	Ile	Thr	Phe	Glu	Pro	Ala	Pro	Trp	Val	Asp
						165				170			175		
Tyr	Arg	Ile	Ser	Lys	Asp	Ser	Val	Phe	Glu	Gly	Leu	Gly	Glu	Gly	Trp
						180				185			190		
Val	Met	Arg	Tyr	Ser	Trp	Gly	Ile	Ala	Phe	Asp	Gly	Lys	Thr	Lys	His
						195				200			205		
Val	Val	Tyr	Asn	Thr	Ser	Asp	Ile	Gly	Cys	Pro	Thr	Lys	Gly	Ala	Phe
						210				215			220		
Glu	Val	Ala	Pro	Arg	Arg	Ile	Cys	Ser	Pro	Lys	Trp	Lys	Asp	Ala	Arg
						225				230			235		240
Leu	Val	Pro	Gly	Thr	Val	Val	Ala	Met	Arg	Gly	Trp	Gly	Arg	Pro	Thr
						245				250			255		
Pro	Gly	Ile	Phe	Met	Ser	His	Asp	Val	Asn	Thr	Ser	Leu	Leu	Asp	Val
						260				265			270		
Lys	Val	His	Tyr	Ala	Glu	Gly	Met	Gly	Leu	Leu	Ala	Gln	Leu	Cys	Glu
						275				280			285		
Asp	Ile	Thr	Leu	Asp	Gly	Phe	Gly	Val	Cys	Leu	Lys	Gly	Asp	Asn	Asp
						290				295			300		
Pro	Arg	Tyr	Phe	Thr	Thr	Gln	Ala	Asp	Ala	Thr	His	Phe	Ser	Gly	Cys

305	310	315	320												
Lys	Gly	Lys	Ile	Val	Ser	Lys	Asn	Gly	Leu	Tyr	Glu	Gly	Met	Met	Asp
325		330													335
Asp	Ala	Ile	Asn	Val	His	Gly	Thr	Tyr	Leu	Lys	Val	Ile	Lys	Arg	Val
340		345													350
Asp	Asp	His	Thr	Leu	Ile	Gly	Arg	Tyr	Met	His	Asp	Gln	Ser	Trp	Gly
355		360													365
Phe	Glu	Trp	Gly	Arg	Pro	Gly	Asp	Asp	Val	Gln	Phe	Val	Arg	Ser	Glu
370		375													380
Thr	Met	Glu	Leu	Ile	Gly	Lys	Gln	Asn	Gln	Ile	Thr	Ala	Ile	Arg	Pro
385		390													400
Tyr	Asp	Lys	Gly	Glu	Ile	Gln	Gly	Ala	Arg	Glu	Phe	Ser	Ile	Thr	Phe
405		410													415
Lys	Glu	Ala	Ile	Asp	Pro	Ala	Ile	Asn	Glu	Lys	Ser	Gly	Phe	Gly	Ile
420		425													430
Glu	Asn	Leu	Thr	Trp	Thr	Pro	Glu	Val	Leu	Phe	Ala	Gly	Asn	Thr	Ile
435		440													445
Arg	Asn	Asn	Arg	Ala	Arg	Gly	Thr	Leu	Phe	Ser	Thr	Pro	Lys	Lys	Thr
450		455													460
Val	Val	Glu	Asp	Asn	Leu	Phe	Asp	His	Thr	Ser	Gly	Thr	Ala	Ile	Leu
465		470													480
Leu	Cys	Gly	Asp	Cys	Asn	Gly	Trp	Phe	Glu	Thr	Gly	Ala	Cys	Arg	Asp
485		490													495
Val	Thr	Ile	Arg	Arg	Asn	Arg	Phe	Ile	Asn	Ala	Leu	Thr	Asn	Met	Phe
500		505													510
Gln	Phe	Thr	Asn	Ala	Val	Ile	Ser	Ile	Tyr	Pro	Glu	Ile	Pro	Asn	Leu
515		520													525
Lys	Asp	Gln	Gln	Lys	Tyr	Phe	His	Gly	Gly	Lys	Asp	Gly	Gly	Ile	Val
530		535													540
Ile	Glu	Asp	Asn	Glu	Phe	Asp	Thr	Phe	Asp	Ala	Pro	Ile	Leu	Tyr	Ala
545		550													560
Lys	Ser	Val	Asp	Gly	Leu	Ile	Phe	Arg	Asn	Asn	Val	Ile	Lys	Thr	Asn
565		570													575
Thr	Glu	Phe	Lys	Pro	Phe	His	Trp	Asn	Lys	Asp	Arg	Phe	Leu	Leu	Glu
580		585													590
Arg	Val	Thr	Asn	Val	Lys	Ile	Ser	Glu							
595		600													

<210> 9472

<211> 226

<212> PRT

<213> B.fragilis

<400> 9472

Glu	Arg	Lys	Glu	Thr	Arg	Leu	Ser	Asp	Met	Lys	Lys	Ser	Thr	Leu	Thr
1			5						10						15
Leu	Leu	Leu	Phe	Ile	Leu	Gly	Ile	Ser	Ser	Ser	Phe	Ser	Val	Gly	Ala
									20						30
Gln	Glu	Ala	Lys	Thr	Val	Phe	Val	Asn	Ile	Pro	Asp	Ser	Leu	Cys	Pro
									35						45
Leu	Leu	Ser	Ser	Val	Asn	Arg	Ala	Asp	Cys	Ile	Asp	Phe	Ile	Glu	Ser
									50						60
Lys	Met	Lys	Ala	Gln	Val	Thr	Asn	Arg	Phe	Gly	Gly	Lys	Ser	Glu	Met
									65						80
Thr	Glu	Leu	Ser	Pro	Asp	Tyr	Val	Ser	Leu	Gln	Met	Ser	Asp	Ala	Ser
									85						95
Asn	Trp	Gln	Met	Lys	Leu	Leu	Pro	Leu	Asn	Asp	Thr	Thr	Lys	Val	Val
									100						110
Cys	Ala	Val	Ser	Thr	Val	Cys	Ala	Pro	Ala	Cys	Asp	Ser	His	Ile	Arg

115	120	125
Phe Tyr Thr Thr Asp Trp Lys Glu Leu Pro Ala Thr Asp Phe Leu Pro		
130	135	140
Ser Val Pro Gln Met Asn Asp Phe Phe Thr Ser Ser Asp Ser Thr Asp		
145	150	155
Tyr Asp Phe Ile Asp Ala Arg Leu Gln Ala Asp Met Ala Leu Met Gln		
165	170	175
Ala Glu Leu Ser Lys Glu Asn Gly Thr Leu Thr Phe Thr Leu Thr Thr		
180	185	190
Pro Glu Tyr Met Glu Lys Glu Thr Ala Glu Lys Leu Lys Pro Phe Leu		
195	200	205
Arg Arg Ser Ile Val Tyr Thr Trp Lys Asp Gly Lys Phe Ile Pro Asp		
210	215	220
Thr Leu		
225		

<210> 9473

<211> 703

<212> PRT

<213> B.fragilis

<400> 9473

Arg Thr Val Trp Thr Leu Lys Pro Tyr Leu Phe Arg Val Gly Gly Leu		
1	5	10
His Phe Asn His Tyr Val Phe Met Lys Arg Leu Leu Ser Val Phe Leu		
20	25	30
Phe Leu Phe Cys Cys Val Ile Ala Ala Asp Ala Gln Asp Asp Ala Ala		
35	40	45
Gln Tyr Asp Ser Ile Met Asn Leu Met Lys Asn Lys Lys Ile Pro Leu		
50	55	60
Met Glu Arg Tyr Tyr Met Thr Gly Asp Ile Glu Tyr Leu Ser Arg Glu		
65	70	75
His Gln Ile Ala Val Leu Lys Gln Leu Ile Pro Glu Ala Lys Glu Val		
85	90	95
Glu Asp Lys Ala Val Ile Thr Arg Leu Tyr Ser Ile Val Ala Met Phe		
100	105	110
Glu Asn Gln Leu Gly His Met Thr Glu Ala Lys Asn Tyr Leu Asp Ser		
115	120	125
Ala Phe Met Asn Lys Gly Lys Phe Glu Asn Asn Asn Ile Ser Gly Met		
130	135	140
Met His Tyr Ile Ala Gly Ile Tyr Tyr Ser Asp Lys Asn Leu Met Glu		
145	150	155
Gln Ala His Glu Asn Tyr Tyr Gln Ala Ala Glu Tyr Phe Asn Arg Asn		
165	170	175
Glu Met Lys Pro Ala Ile Leu Thr Glu Ile Tyr Tyr Asp Leu Ser Ile		
180	185	190
Ile Tyr Ser Met Trp Gln Asp Asp Glu Gly Leu His Glu Leu Ser Glu		
195	200	205
Ala Met Lys Asp Leu Pro Val Asp Phe Pro Phe Gln Gln Ile Leu Lys		
210	215	220
Trp Thr Ile Lys Val Lys Tyr Phe Tyr Ala Leu Tyr Gln Asn Glu His		
225	230	235
Arg Val Asp Leu Leu Asp Ser Val Thr Lys Tyr Asn Gln Glu Ala Phe		
245	250	255
Lys Val Tyr Thr Ser Thr Glu Asn Pro Tyr Asp Val Gly Tyr Val Ile		
260	265	270
Ser Asp Asn Tyr Leu His Gln Ala Ile Val Tyr Ser Glu Ala Gly Lys		
275	280	285
Ile Lys Glu Ala Glu Gln Cys Phe Glu Thr Gly Lys Lys Leu Met Asn		

290	295	300
Pro Lys Lys Ile Asp Ala Asn Val Ser Val Ser Tyr Val Ser Gly Val		
305	310	315
Ile Ala Tyr Tyr Gln Ala Asp Tyr Glu Leu Ala Glu Gln His Leu Gln		320
325	330	335
Asp Gly Leu Arg Glu Leu Lys Arg Met Asp Glu Glu Gln Glu Val Asp		
340	345	350
Tyr Tyr His Ala Leu Ile Glu Phe Tyr Thr Leu Leu Ala Lys Val Tyr		
355	360	365
Glu Lys Gln Glu Leu Tyr Asn Lys Ala Leu Glu Ala Ala Arg Asn Ser		
370	375	380
Leu Lys Tyr Glu Thr Arg Leu Phe Asp Lys Asn Ser Asn Lys Thr Ile		
385	390	395
Gln Lys Leu Arg Thr Gln Tyr Asn Leu Asn Glu Lys Glu Arg Val Val		400
405	410	415
Glu Gln Leu Ser Ala Ile Asn Glu Lys Asn Arg Arg Ile Asn Ile Leu		
420	425	430
Ser Ala Ile Leu Ile Val Leu Ala Leu Val Thr Ile Phe Leu Leu Leu		
435	440	445
Lys Arg Tyr Arg Ser Arg Gln Arg Ile His Glu Gly Met Leu Gln Ile		
450	455	460
Ala Lys Leu Lys Gln Gln Glu Ala Glu Leu Leu Val Lys Leu Gln Lys		
465	470	475
Thr Lys Leu Glu Glu Arg Glu Arg Glu Phe Gln Ser Leu Val His Glu		
485	490	495
Ala Gln Gln Arg Lys Val Gln Tyr Tyr Leu Glu Gly Leu Glu Val Glu		
500	505	510
Arg Lys Arg Leu Ala Lys Glu Leu His Asp Asn Val Ser Asn Glu Leu		
515	520	525
Leu Ala Ile Lys Met Lys Ile Thr Asp Gly Thr Ser Ser Cys Glu Glu		
530	535	540
Ile Met Asp Thr Leu Gln Thr Leu Gln Ala Glu Val Arg Gly Ile Ser		
545	550	555
His Asp Leu Met Pro Pro Ile Phe Lys Tyr Ala Ser Leu Ser Glu Ile		
565	570	575
Leu Gln Asp Tyr Val Tyr Gln His Asn Gln Pro Gly Gln Thr Glu Leu		
580	585	590
Glu Leu Leu Leu Glu Pro Glu Asp Asn Phe Asp Asn Leu Ser Gln Lys		
595	600	605
Val Ser Leu Glu Ile Tyr Arg Ile Val Gln Glu Ala Val Gly Asn Ser		
610	615	620
Leu Lys His Ala Gln Ala Thr Leu Val Lys Ile Ile Leu Val Arg Glu		
625	630	635
Asp Asn Lys Val Lys Leu Thr Val Ser Asp Asn Gly Arg Gly Phe Glu		
645	650	655
Gln Gln Thr Gly Lys Thr Gly Ile Gly Leu Thr Ile Ile Lys Glu Arg		
660	665	670
Val Glu Asn Leu Arg Gly Thr Leu Thr Leu Asn Ser Ala Pro Gly Lys		
675	680	685
Gly Thr Glu Leu Ile Val Glu Ile Asp Leu Glu Asn Leu Glu Lys		
690	695	700

<210> 9474

<211> 80

<212> PRT

<213> B.fragilis

<220>

<221> UNSURE

<222> (12), (33), (46), (47)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 9474

Trp	Arg	Ser	Arg	Arg	Met	His	Asp	Ala	Arg	Thr	Xaa	Ser	Ser	His	Ser
1					5				10					15	
His	Gly	Tyr	Ser	Arg	Phe	Leu	Leu	Thr	Ser	Phe	Ile	Thr	Ala	Tyr	Thr
						20			25					30	
Xaa	Thr	Ser	Leu	Ala	Arg	Arg	Glu	His	Cys	Pro	His	Leu	Xaa	Xaa	Arg
					35			40				45			
Val	Met	Ser	Ser	Arg	Leu	Phe	Ser	His	Cys	Asn	Lys	His	Val	Ala	Gly
					50			55			60				
Thr	Arg	Asp	Asp	Thr	Leu	Gln	Leu	Ile	Ser	Pro	Leu	Tyr	Ser	Lys	Ser
					65			70			75			80	

<210> 9475

<211> 64

<212> PRT

<213> B.fragilis

<400> 9475

Ser	Asn	Ile	Ser	Phe	Phe	Thr	Ser	Arg	Met	Asp	Ser	Ser	Gly	Glu	Ser
1						5			10				15		
Arg	Asp	Thr	Ser	Phe	Phe	Val	Asn	Tyr	Lys	Arg	Gly	Leu	Thr	Arg	Pro
						20			25				30		
Lys	Thr	Glu	Leu	Asp	Ser	Met	Ser	Lys	Arg	Lys	Leu	Thr	Thr	Lys	Phe
						35			40			45			
Glu	Glu	Glu	Pro	Pro	Lys	Asn	Arg	Ser	Phe	Ile	Phe	His	Pro	Leu	Phe
					50			55			60				

<210> 9476

<211> 318

<212> PRT

<213> B.fragilis

<400> 9476

Asn	Ile	Leu	Arg	Arg	Tyr	Ser	Asn	Lys	Pro	Ile	Ala	Ser	Asn	Leu	Lys
1						5			10				15		
Asn	Ser	Ile	Met	Trp	Leu	Leu	Leu	Ala	Phe	Leu	Ser	Ala	Thr	Leu	Leu
						20			25			30			
Gly	Phe	Tyr	Asp	Val	Phe	Lys	Lys	Lys	Ala	Leu	Lys	Asp	Asn	Ala	Val
						35			40			45			
Leu	Pro	Val	Leu	Phe	Phe	Asn	Thr	Leu	Phe	Ser	Ser	Leu	Ile	Phe	Leu
						50			55			60			
Pro	Phe	Ile	Leu	Leu	Ser	Ala	Phe	Ala	Pro	Gly	Val	Leu	Glu	Gly	Thr
						65			70			75			80
Met	Leu	Asp	Val	Pro	Val	Val	Gly	Trp	Glu	Val	His	Lys	Phe	Ile	Ile
						85			90			95			
Ile	Lys	Ser	Phe	Ile	Val	Leu	Ser	Ser	Trp	Ile	Leu	Gly	Tyr	Phe	Gly
						100			105			110			
Met	Lys	His	Leu	Pro	Ile	Thr	Ile	Val	Gly	Pro	Ile	Asn	Ala	Thr	Arg
						115			120			125			
Pro	Val	Met	Val	Leu	Val	Gly	Ala	Met	Leu	Val	Phe	Gly	Glu	Arg	Leu
						130			135			140			
Asn	Leu	Tyr	Gln	Trp	Ile	Gly	Val	Met	Leu	Ala	Ile	Ile	Ser	Phe	Phe
						145			150			155			160
Met	Leu	Ser	Arg	Ser	Gly	Lys	Lys	Glu	Gly	Ile	Asp	Phe	Lys	His	Asn
						165			170			175			
Lys	Trp	Ile	Leu	Phe	Ile	Ile	Leu	Ala	Ala	Val	Ala	Gly	Ala	Val	Ser

180	185	190
Gly Leu Tyr Asp Lys Tyr	Leu Met Lys Gln	Leu Pro Pro Met Val Val
195	200	205
Gln Ser Trp Tyr Asn Val	Tyr Gln Met Phe Ile	Met Cys Pro Ile Leu
210	215	220
Ala Leu Leu Trp Trp Pro	Lys Arg Lys Ser Ser	Thr Pro Phe Arg Trp
225	230	235
Asp Trp Ala Ile Ile Phe	Ile Ser Ile Phe Leu	Cys Ala Ala Asp Phe
245	250	255
Val Tyr Phe Tyr Ala Leu	Ser Tyr Glu Asp Ser	Met Ile Ser Ile Val
260	265	270
Ser Met Val Arg Arg Gly	Ser Val Ile Val	Ser Phe Leu Phe Gly Ala
275	280	285
Met Val Phe Arg Glu Lys	Asn Leu Lys Ser	Lys Ala Ile Asp Leu Ile
290	295	300
Leu Val Leu Ile Gly Met	Ile Phe Leu Tyr	Leu Gly Thr Lys
305	310	315

<210> 9477

<211> 318

<212> PRT

<213> B.fragilis

<400> 9477

Leu Tyr Lys Ser Met Lys Ala	Leu Thr Lys Thr Asp Phe	Asn Phe Pro	
1	5	10	15
Gly Gln Lys Ser Val Tyr His	Gly Lys Val Arg Asp	Val Tyr Asn Ile	
20	25	30	
Asn Gly Glu Gln Leu Val	Met Val Ala Thr Asp Arg	Ile Ser Ala Phe	
35	40	45	
Asp Val Val Leu Pro Glu	Gly Ile Pro Tyr Lys	Gly Gln Met Leu Asn	
50	55	60	
Gln Ile Ala Ala Lys	Phe Leu Asp Ala Thr	Thr Asp Ile Cys Pro Asn	
65	70	75	80
Trp Lys Leu Ala Thr Pro	Asp Pro Met Val	Thr Val Gly Val Leu Cys	
85	90	95	
Glu Gly Phe Pro Val Glu	Met Ile Val Arg	Gly Tyr Leu Cys Gly Ser	
100	105	110	
Ala Trp Arg Ala Tyr Lys	Asn Gly Val Arg	Glu Ile Cys Gly Val Lys	
115	120	125	
Leu Pro Glu Gly Met Lys	Glu Asn Gln Lys	Phe Pro Glu Pro Ile Val	
130	135	140	
Thr Pro Thr Thr Lys Ala	Glu Met Gly	Leu His Asp Glu Asp Ile Ser	
145	150	155	160
Lys Glu Glu Ile Leu Ala	Gln Gly Leu Ala	Thr Pro Glu Glu Tyr Ala	
165	170	175	
Ile Leu Glu Lys Tyr	Thr Leu Ala Leu	Phe Lys Arg Gly Thr Glu Ile	
180	185	190	
Ala Ala Glu Arg Gly	Leu Ile Leu Val	Asp Thr Lys Tyr Glu Phe Gly	
195	200	205	
Lys His Asn Gly Thr	Ile Tyr Leu Met	Asp Glu Ile His Thr Pro Asp	
210	215	220	
Ser Ser Arg Tyr Phe	Tyr Ala Glu Gly	Tyr Gln Glu Arg Phe Glu Lys	
225	230	235	240
Gly Glu Ala Gln Lys	Gln Leu Ser Lys	Glu Phe Val Arg Glu Trp Leu	
245	250	255	
Met Glu Asn Gly Phe	Gln Gly Lys	Glu Gly Gln Lys Val Pro Glu Met	
260	265	270	
Thr Pro Ala Ile Val	Glu Ser Ile	Ser Glu Arg Tyr Ile Glu Leu Phe	

275	280	285
Glu Asn Ile Thr Gly Glu Lys	Phe Val Lys Glu Asp	Thr Ser Asn Ile
290	295	300
Ala Glu Arg Ile Glu Lys Asn Val Met Ala Phe Leu Ala Lys		
305	310	315

<210> 9478

<211> 399

<212> PRT

<213> B.fragilis

<400> 9478

Arg Phe Gln Ser Glu Ile Arg Leu Cys Lys Asn Thr Tyr Lys Cys Met			
1	5	10	15
Lys Arg Ile Leu Leu Phe Leu Leu Ala Cys Cys Pro Met Leu Leu Cys			
20	25	30	
Ala Gln Glu Asp Asn Ser Lys Tyr Leu Ala Gly Ala Val Pro Val Val			
35	40	45	
Asn Gly Lys Val Ile Phe Ala Glu Val Ile Gln Ala Ser Asp Met Ser			
50	55	60	
Lys Arg Gln Ile Tyr Asp Ala Leu Leu Lys Trp Ala Glu Lys Arg Phe			
65	70	75	80
Thr Pro Ser Lys Gly Gln Lys Gly Arg Val Ala Tyr Phe Asp Gly Lys			
85	90	95	
Lys Gly Gln Ile Ala Cys Leu Gly Glu Glu Tyr Leu Gln Leu Ser Ala			
100	105	110	
Thr Asn Ser Phe Phe Leu Asp Arg Ala Thr Ile Lys Tyr Arg Leu Val			
115	120	125	
Ile Asn Cys Leu Asp Gly Ser Cys Lys Met Glu Met Tyr Asn Ile Ser			
130	135	140	
Tyr Phe His Gly Asp Asp Thr Glu Met Glu Ala Glu Asp Trp Ile Thr			
145	150	155	160
Asp Glu Thr Gly Leu Asn Lys Ala Lys Thr Lys Val Val Ala Lys Tyr			
165	170	175	
Gly Lys Leu Arg Ile Lys Thr Ile Asp Leu Phe Asp Asp Leu Thr Glu			
180	185	190	
Gln Val Thr Lys Thr Leu Gly Gly Ala Lys Ser Glu Val Pro Leu Leu			
195	200	205	
Ala Lys Glu Pro Lys Val Thr Pro Glu Val Phe Asp Arg Glu Phe Pro			
210	215	220	
Lys Ala Val Glu Gln Gly Ala Met Ala Gly Tyr Lys His Ile Pro Ala			
225	230	235	240
Asp Lys Ile Pro Gly Asn Ile Ile Lys Met Leu Ser Glu Asp Trp Met			
245	250	255	
Leu Ile Thr Ala Gly Thr Glu Asp Lys Tyr Asn Met Met Thr Ala Ser			
260	265	270	
Trp Gly Gly Leu Gly Tyr Leu Tyr Asn Lys Pro Val Ser Phe Cys Phe			
275	280	285	
Ile Tyr Pro Thr Arg Tyr Thr Tyr Gln Leu Met Glu Lys Asn Asp Thr			
290	295	300	
Tyr Thr Ile Ser Phe Tyr Thr Glu Thr Tyr Arg Asp Ala Leu Lys Tyr			
305	310	315	320
Cys Gly Ser His Ser Gly Glu Asp Val Asp Lys Val Lys Gly Ala Gly			
325	330	335	
Leu Thr Pro Leu Thr Thr Pro Ser Gly Ser Lys Ala Phe Ser Glu Ala			
340	345	350	
Trp Met Ile Ile Glu Cys Lys Lys Met Leu Ser Gln Pro Ile Thr Pro			
355	360	365	
Gly Ala Phe Asp Thr Pro Glu Leu Lys Glu Ala Trp Lys Asp Lys Ser			

370	375	380
Leu His Thr Met Tyr Ile Gly Glu Ile Met Asn Val Trp Val Lys		
385	390	395

<210> 9479

<211> 79

<212> PRT

<213> B.fragilis

<400> 9479

Lys Gly Cys Gly Ser Gly Gly Lys Arg Asp Ile Glu Ser Gly Arg Leu			
1	5	10	15
Lys Asn Ile Tyr Cys Gly Val Leu Leu Pro Gln Thr Asn Val Ser Lys			
20	25	30	
Leu Thr Met Glu Asp Lys Pro Ser Ile Leu Gly Arg Lys Asp Gly Lys			
35	40	45	
Lys Arg Glu Asn Ile Asp Leu Lys Glu Leu Tyr Gln Leu Tyr Asn Glu			
50	55	60	
Ile Asp Ser Tyr Ile Ser Gln Arg Tyr Asn Glu Leu Phe Gly Leu			
65	70	75	

<210> 9480

<211> 147

<212> PRT

<213> B.fragilis

<220>

<221> UNSURE

<222> (46),(79),(94),(101),(119),(122),(135),(136)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 9480

Ala Trp Cys Gly Pro Cys Asp Thr Val Leu Met Cys Ala Met Met Tyr			
1	5	10	15
Gly Tyr Gly Glu Ala Gln Pro Ala Arg Arg Gly Asp His Val Asp Ala			
20	25	30	
Leu Cys Leu His Arg Leu Ala Val Ile Met His Met Cys Xaa Tyr Ala			
35	40	45	
Phe Glu Pro Leu Ser Cys Asp Glu Cys Ala His Ala Leu His Arg Gln			
50	55	60	
His Arg Leu Leu Leu Cys Leu Ala Val Tyr Met Ala Pro Ala Xaa Ser			
65	70	75	80
Ser Cys Leu Thr Tyr Val Phe Leu Leu Met Ala Gln Ser Xaa His Ala			
85	90	95	
Arg Arg Thr His Xaa Ile Glu Ser Leu Ser Arg Ile Leu Thr Ile Pro			
100	105	110	
Pro Tyr Leu Val His His Xaa Val His Xaa Tyr Glu Ser Ser Ala Thr			
115	120	125	
Gly Ala Leu Ser Ser Pro Xaa Xaa Ser Cys Asn Val Val Ser Ser Ile			
130	135	140	
Leu Ser Leu			
145			

<210> 9481

<211> 316

<212> PRT

<213> B.fragilis

<400> 9481

Met Lys Lys Gly Ile Lys Ile Gly Val Ile Thr Leu Leu Leu Leu Leu
 1 5 10 15
 Thr Gly Cys Thr Ile Gly Gly Ser Phe Phe Met Leu Asn Tyr Ser Leu
 20 25 30
 Arg Pro Glu Ala Lys Ile Arg Ala Lys Asn Ala Asp Ser Tyr Pro Phe
 35 40 45
 Ile Tyr Lys Asn Tyr Pro Phe Leu Arg Pro Trp Val Asp Ser Leu Asn
 50 55 60
 Gln Ala His Ala Leu Arg Asp Thr Phe Val Leu Asn Pro Glu Gly Ile
 65 70 75 80
 Arg Leu His Ala Tyr Tyr Ile Ala Ala Pro Gln Pro Thr Lys Lys Thr
 85 90 95
 Ala Val Ile Val His Gly Tyr Thr Asp Asn Ala Ile Arg Met Phe Met
 100 105 110
 Ile Gly Tyr Leu Tyr Asn His Asp Leu Gln Tyr Asn Val Leu Leu Pro
 115 120 125
 Asp Leu Gln His Gln Gly Glu Ser Gly Gly Pro Ala Ile Gln Met Gly
 130 135 140
 Trp Lys Asp Arg Leu Asp Val Met Gln Trp Met His Ile Ala Asn Gln
 145 150 155 160
 Ile Tyr Gly Asp Ser Thr Gln Met Val Val His Gly Ile Ser Met Gly
 165 170 175
 Gly Ala Thr Thr Met Met Val Ser Gly Glu Ala Gln Pro Tyr Phe Val
 180 185 190
 Lys Cys Phe Val Glu Asp Cys Gly Tyr Thr Ser Val Trp Asp Glu Phe
 195 200 205
 Ser His Glu Leu Lys Ser Ser Phe His Leu Pro Ser Phe Pro Leu Met
 210 215 220
 Asn Thr Thr Ser Trp Leu Cys Gln Lys Lys Tyr Gly Trp Asn Phe Glu
 225 230 235 240
 Glu Ala Ser Ser Leu Asn Gln Val Lys Lys Ser His Leu Pro Met Phe
 245 250 255
 Phe Ile His Gly Asp Lys Asp Thr Tyr Val Pro Thr Trp Met Val Tyr
 260 265 270
 Pro Leu Tyr Glu Ala Lys Ser Ala Pro Lys Gln Leu Trp Ile Val Pro
 275 280 285
 Gly Ala Ala His Ala Val Ser Tyr Lys Glu Asn Lys Glu Glu Tyr Thr
 290 295 300
 Arg Lys Val Lys Glu Phe Thr Asp Arg Tyr Ile His
 305 310 315

<210> 9482

<211> 349

<212> PRT

<213> B.fragilis

<400> 9482

Ser Lys Ile Met Glu Phe Ser Ala Lys Gln Ile Ala Ala Phe Ile Gln
 1 5 10 15
 Gly Glu Ile Ile Gly Asp Glu Asn Ala Thr Val His Thr Phe Ala Lys
 20 25 30
 Ile Glu Glu Gly Ile Pro Gly Ala Ile Ser Phe Leu Ser Asn Pro Lys
 35 40 45
 Tyr Thr Pro Tyr Ile Tyr Glu Thr Lys Ala Ser Ile Val Leu Val Asn
 50 55 60
 Lys Asp Phe Thr Pro Glu Gln Glu Val Lys Ala Thr Leu Ile Lys Val
 65 70 75 80
 Asp Asn Ala Tyr Glu Ser Leu Ala Lys Leu Leu Asn Leu Tyr Glu Met
 85 90 95

Ser Lys Pro Lys Arg Thr Gly Ile Asp Glu Arg Ala Tyr Val Ala Glu
 100 105 110
 Thr Ala Lys Ile Gly Lys Asp Val Tyr Ile Ala Pro Phe Ala Cys Ile
 115 120 125
 Gly Asp His Ala Glu Val Gly Asp Asn Thr Val Ile His Pro His Ala
 130 135 140
 Thr Val Gly Gly Ala Lys Ile Gly Ser Asn Cys Ile Leu Tyr Ala
 145 150 155 160
 Asn Ser Thr Val Tyr His Asp Cys Arg Val Gly Asn Asn Cys Ile Leu
 165 170 175
 His Ala Gly Cys Val Ile Gly Ala Asp Gly Phe Gly Phe Ala Pro Thr
 180 185 190
 Pro Gln Gly Tyr Glu Lys Ile Pro Gln Ile Gly Ile Val Ile Leu Glu
 195 200 205
 Asp Asn Val Glu Val Gly Ala Asn Thr Cys Ile Asp Arg Ala Thr Met
 210 215 220
 Gly Ala Thr Val Ile His Ser Gly Val Lys Leu Asp Asn Leu Val Gln
 225 230 235 240
 Ile Ala His Asn Asp Glu Ile Gly Ser His Thr Val Met Ala Ala Gln
 245 250 255
 Val Gly Ile Ala Gly Ser Thr Lys Val Gly Glu Trp Cys Met Phe Gly
 260 265 270
 Gly Gln Val Gly Ile Ala Gly His Leu Lys Ile Gly Asn Gln Val Asn
 275 280 285
 Leu Gly Ala Gln Ser Gly Val Pro Gly Asn Ile Lys Ser Gly Ser Gln
 290 295 300
 Leu Ile Gly Thr Pro Pro Met Glu Leu Lys Gln Phe Phe Lys Ala Ser
 305 310 315 320
 Ile Val Gln Lys Ser Leu Pro Glu Met Gln Ile Glu Leu Arg Asn Leu
 325 330 335
 Arg Lys Glu Ile Glu Glu Leu Lys Gln Gln Leu Asn Lys
 340 345

<210> 9483
 <211> 304
 <212> PRT
 <213> B.fragilis

<400> 9483
 Pro Ile Val Met Thr Ala Lys Thr Leu Ile Val Leu Ile Gly Pro Thr
 1 5 10 15
 Gly Val Gly Lys Thr Glu Leu Ser Leu Arg Ile Ala Glu Tyr Phe Lys
 20 25 30
 Thr Ser Ile Ile Ser Ser Asp Ser Arg Gln Leu Tyr Ala Glu Leu Lys
 35 40 45
 Ile Gly Thr Ala Ala Pro Thr Pro Glu Gln Leu Lys Arg Val Pro His
 50 55 60
 Tyr Phe Val Gly Thr Leu Gln Leu Thr Asp Tyr Tyr Ser Ala Ala Gln
 65 70 75 80
 Tyr Glu Thr Glu Val Met Ser Val Leu Glu Gln Leu Phe Gln Gln His
 85 90 95
 His Val Val Leu Leu Thr Gly Gly Ser Met Met Tyr Val Asp Ala Ile
 100 105 110
 Cys Lys Gly Ile Asp Asp Ile Pro Thr Val Asp Ala Glu Thr Arg Glu
 115 120 125
 Leu Leu Leu His Lys Tyr Asp Thr Glu Gly Leu Asp Asn Leu Cys Ala
 130 135 140
 Glu Leu Lys Leu Leu Asp Pro Glu Tyr Tyr Lys Ile Val Asp Leu Lys
 145 150 155 160

Asn Pro Lys Arg Val Ile His Ala Leu Glu Ile Cys Tyr Met Thr Gly
 165 170 175
 Lys Thr Tyr Thr Ser Phe Arg Thr Gln Gln Lys Lys Glu Arg Pro Phe
 180 185 190
 His Ile Leu Lys Ile Gly Leu Thr Arg Asp Arg Ala Glu Leu Tyr Asp
 195 200 205
 Arg Ile Asn Arg Arg Val Asp Gln Met Met Asn Glu Gly Leu Leu Glu
 210 215 220
 Glu Ala Arg Ser Val Tyr Ala His Arg Glu Leu Asn Ser Leu Asn Thr
 225 230 235 240
 Val Gly Tyr Lys Glu Ile Phe Lys Tyr Leu Asp Gly Glu Trp Asp Leu
 245 250 255
 Asp Phe Ala Ile Glu Lys Ile Lys Gln Asn Ser Arg Ile Tyr Ser Arg
 260 265 270
 Lys Gln Met Thr Trp Phe Lys Arg Asp Glu Glu Ile Arg Trp Phe His
 275 280 285
 Pro Glu Gln Glu Lys Glu Ile Leu Ser Tyr Leu Gln Val Ser Ile Lys
 290 295 300

<210> 9484

<211> 264

<212> PRT

<213> B.fragilis

<400> 9484

Ser Ser Ile Phe Ala Arg Lys Asn Gln Val Asn Gly Met Ser Val Gln
 1 5 10 15
 Arg Tyr Phe Ile Tyr Leu Ala Tyr Asp Gly Thr His Tyr His Gly Trp
 20 25 30
 Gln Ile Gln Pro Asn Gly Ile Ser Ile Gln Glu Cys Leu Met Lys Ala
 35 40 45
 Leu Ala Thr Phe Leu Arg Lys Asp Thr Glu Val Ile Gly Ala Gly Arg
 50 55 60
 Thr Asp Ala Gly Val His Ala Ser Leu Met Val Ala His Phe Asp Tyr
 65 70 75 80
 Glu Gly Glu Pro Leu Asp Val Asp Lys Val Ala Glu Lys Leu Asn Arg
 85 90 95
 Leu Leu Pro Gln Asp Ile Ser Val Tyr Lys Val Cys Arg Val Lys Pro
 100 105 110
 Asp Ala His Ala Arg Phe Asp Ala Thr Ala Arg Thr Tyr Lys Tyr Tyr
 115 120 125
 Ile Thr Thr Val Lys Phe Pro Phe Asn Arg Gln Tyr Arg Tyr Arg Ile
 130 135 140
 His Asn Pro Leu Asp Phe Gln Lys Met Asn Glu Ala Ala Leu Thr Leu
 145 150 155 160
 Phe His Tyr Ser Asp Phe Thr Ser Phe Ser Lys Leu His Thr Asp Val
 165 170 175
 Lys Thr Asn Ile Cys Lys Ile Met His Ala Glu Trp Thr Gln Glu Asp
 180 185 190
 Glu Tyr Thr Trp Val Phe Thr Ile Gln Ala Asp Arg Phe Leu Arg Asn
 195 200 205
 Met Val Arg Ala Ile Val Gly Thr Leu Leu Glu Val Gly Arg Gly Lys
 210 215 220
 Leu Ser Val Asp Asp Phe Arg Lys Ile Ile Glu Gln Gln Asn Arg Cys
 225 230 235 240
 Lys Ala Gly Thr Ser Ala Pro Gly Asn Ala Leu Phe Leu Val Asn Val
 245 250 255
 Glu Tyr Pro Gln Glu Ile Phe Glu
 260

<210> 9485
<211> 375
<212> PRT
<213> B.fragilis

<400> 9485

Lys	Lys	Val	Ile	Tyr	Arg	Cys	Phe	Ser	Phe	Thr	Val	Thr	Lys	Thr	His
1									10						15
Thr	Cys	Leu	His	Gly	Trp	Ser	Ile	Leu	Phe	Met	Lys	Pro	Asn	Arg	Pro
							20		25					30	
Gln	Ser	Asn	Ser	Gly	Leu	Tyr	Arg	Glu	Leu	His	Met	Pro	Tyr	Leu	Ile
							35		40					45	
Lys	Arg	Thr	Arg	Lys	Asn	Thr	Pro	Gly	Lys	Ser	Lys	Asn	Leu	Gln	Thr
							50		55				60		
Ala	Thr	Phe	Thr	Asp	Met	Lys	Gln	Ile	Leu	Thr	Tyr	Leu	Leu	Phe	Ile
							65		70		75			80	
Trp	Ile	Leu	Leu	Pro	Leu	Lys	Ala	Glu	Glu	Lys	Ile	Tyr	Thr	Val	Asp
							85		90				95		
Asn	Ile	Pro	Lys	Val	His	Leu	Gln	Asn	Lys	Met	Gln	Tyr	Val	Cys	Asn
							100		105				110		
Pro	Ala	Gly	Ile	Leu	Ser	Gln	Gln	Ala	Cys	Asp	Glu	Ile	Asp	Ala	Met
							115		120				125		
Leu	Tyr	Ala	Leu	Glu	Gln	Gln	Thr	Gly	Ile	Glu	Thr	Val	Val	Ala	Ile
							130		135				140		
Val	Pro	Ser	Ile	Gly	Asp	Lys	Asp	Cys	Phe	Glu	Phe	Ser	His	Gln	Leu
							145		150				155		160
Leu	Asn	Gln	Trp	Gly	Val	Gly	Lys	Lys	Gly	Lys	Asp	Asn	Gly	Leu	Val
							165		170				175		
Ile	Leu	Leu	Val	Thr	Asp	Gln	Arg	Cys	Ile	Gln	Phe	Tyr	Thr	Gly	Tyr
							180		185				190		
Gly	Leu	Glu	Gly	Ile	Leu	Pro	Asp	Ala	Ile	Cys	Lys	Arg	Ile	Gln	Met
							195		200				205		
Gln	Glu	Met	Ile	Pro	Tyr	Leu	Lys	Lys	Gly	Glu	Trp	Asn	Gln	Gly	Met
							210		215				220		
Leu	Ala	Gly	Val	Lys	Ala	Val	Cys	Gln	Arg	Leu	Asp	Gly	Ser	Met	Val
							225		230				235		240
Asn	Asp	Asp	Glu	Gly	Arg	Gly	Glu	Glu	Gly	Ile	Ser	Val	Ser	Met	Leu
							245		250				255		
Leu	Val	Val	Ile	Leu	Ser	Phe	Ile	Thr	Ile	Ala	Gly	Val	Val	Gly	Ile
							260		265				270		
Leu	Ala	Val	Arg	Ala	Ser	Thr	Arg	Cys	Pro	Lys	Cys	Gly	Lys	His	Gln
							275		280				285		
Leu	Gln	Arg	Ser	Ser	Thr	Lys	Leu	Ile	Ser	Asn	Arg	Asn	Gly	Val	Lys
							290		295				300		
Thr	Glu	Asp	Ile	Ile	Tyr	Thr	Cys	Arg	Asn	Cys	Gly	His	Thr	Val	Val
							305		310				315		320
Arg	Arg	Gln	Gln	Ser	Tyr	Asp	Asp	Asn	Tyr	Arg	Gly	Arg	Gly	Gly	Gly
							325		330				335		
Gly	Pro	Phe	Ile	Gly	Gly	Phe	Gly	Gly	Ser	Phe	Gly	Ser	Gly	Gly	Gly
							340		345				350		
Gly	Gly	Gly	Phe	Ser	Gly	Gly	Ser	Phe	Gly	Gly	Gly	Ser	Gly	Gly	Gly
							355		360				365		
Gly	Gly	Ala	Gly	Ser	Arg	Phe									
							370		375						

<210> 9486
<211> 230
<212> PRT

<213> B.fragilis

<400> 9486

Lys Arg Leu Ile Met Asn Gln Ser Lys Cys Arg Ser His Phe Val Ile
 1 5 10 15
 Ser Ile Phe Leu Cys Phe Ile Leu Pro Cys Leu Ala Gly Cys Lys Lys
 20 25 30
 Lys Asp Met Ser Leu Lys Leu Asn Glu Pro Arg Asn Ile Lys Gly Val
 35 40 45
 Val Ser Tyr Lys Arg Ser Phe Gly Asp Leu Asn Asp Val Gln Leu Lys
 50 55 60
 Ala Ala His Ala Trp Gly Ile Ala Pro Leu Ala Ser Arg Glu Glu Ala
 65 70 75 80
 Glu Glu Met Asp Gly Lys Leu Val His Ile Val Asp Asn Asp Phe Tyr
 85 90 95
 Val Val Asp Ser Leu Thr His Ser Ile Pro Tyr Leu Val Pro Arg Ala
 100 105 110
 Ser Ala Leu Leu Asp Thr Ile Gly Ala Asn Phe Leu Asp Ser Leu Thr
 115 120 125
 Ala Lys Gly Leu Asn Pro Asn Lys Ile Ile Val Thr Ser Val Leu Arg
 130 135 140
 Thr Glu Asn Asp Val Lys Arg Leu Arg Arg Asn Gly Asn Ala Ser
 145 150 155 160
 Lys Asn Ser Cys His Phe Tyr Gly Thr Thr Phe Asp Val Ser Trp Lys
 165 170 175
 Arg Phe Lys Lys Val Glu Asp Glu Asp Gly Arg Pro Leu Gln Asp Val
 180 185 190
 Ser Ala Asp Thr Leu Lys Leu Val Leu Ala Glu Val Leu Arg Asp Val
 195 200 205
 Arg Lys Ala Asp Lys Cys Tyr Val Lys Tyr Glu Leu Lys Gln Gly Cys
 210 215 220
 Phe His Ile Thr Thr Arg
 225 230

<210> 9487

<211> 340

<212> PRT

<213> B.fragilis

<400> 9487

Ile Asp Ser Met Ile Glu Lys Leu Ile Val Leu Glu Asp Ile Asp Pro
 1 5 10 15
 Val Ile Phe Tyr Gly Val Asn Asn Ala Asn Ile Gln Leu Ile Lys Ala
 20 25 30
 Leu Tyr Pro Lys Leu Arg Ile Val Ala Arg Gly Asn Val Ile Lys Val
 35 40 45
 Leu Gly Asp Glu Glu Glu Met Cys Ala Phe Glu Asp Asn Ile Thr Lys
 50 55 60
 Leu Glu Lys Tyr Cys Ala Glu Tyr Asn Ser Leu Lys Glu Val Ile
 65 70 75 80
 Ile Asp Ile Ile Lys Gly Asn Ala Pro Gln Ala Glu Lys Ala Gly Asn
 85 90 95
 Val Ile Val Phe Ser Val Thr Gly Lys Pro Ile Ile Pro Arg Ser Glu
 100 105 110
 Asn Gln Leu Lys Leu Val Glu Gly Phe Ala Lys Asn Asp Met Val Phe
 115 120 125
 Ala Ile Gly Pro Ala Gly Ser Gly Lys Thr Tyr Thr Ala Ile Ala Leu
 130 135 140
 Ala Val Arg Ala Leu Lys Asn Lys Glu Ile Lys Lys Ile Ile Leu Ser

145	150	155	160
Arg Pro Ala Val Glu Ala Gly Glu Lys Leu	Gly Phe Leu Pro Gly Asp		
165	170	175	
Met Lys Asp Lys Ile Asp Pro Tyr Leu Gln Pro Leu Tyr Asp Ala Leu			
180	185	190	
Gln Asp Met Ile Pro Ala Ala Lys Leu Lys Glu Tyr Met Glu Leu Asn			
195	200	205	
Ile Ile Gln Ile Ala Pro Leu Ala Phe Met Arg Gly Arg Thr Leu Asn			
210	215	220	
Asp Ala Val Val Ile Leu Asp Glu Ala Gln Asn Thr Thr Gln Gln			
225	230	235	240
Ile Lys Met Phe Leu Thr Arg Met Gly Met Asn Thr Lys Met Ile Ile			
245	250	255	
Thr Gly Asp Met Thr Gln Ile Asp Leu Pro Ala Ser Gln Thr Ser Gly			
260	265	270	
Leu Val Gln Ala Leu Arg Ile Leu Lys Gly Val Lys Gly Ile Ser Phe			
275	280	285	
Val Glu Leu Asn Lys Lys Asp Ile Val Arg His Lys Leu Val Glu Arg			
290	295	300	
Ile Val Asp Ala Tyr Glu Lys Phe Asp Lys Glu Lys Lys Ala Glu Arg			
305	310	315	320
Glu Lys Leu Asn Gly Glu Arg Leu Thr Ile Ser Lys Glu Arg Gln Asn			
325	330	335	
Val Gly Asn Leu			
340			

<210> 9488

<211> 332

<212> PRT

<213> B.fragilis

<400> 9488

Asn Tyr Leu Ile Met Asn Leu Asn Thr Pro Val Glu Ile Pro Ser Gly			
1	5	10	15
Phe Thr Pro Ile Ser His Ala Gln Gln Leu Leu Ile Met Gly Ser Cys			
20	25	30	
Phe Ala Glu Asn Ile Gly Thr Leu Leu Ala Glu Asn Lys Phe Arg Ile			
35	40	45	
Asp Ile Asn Pro Phe Gly Ile Leu Tyr Asn Pro Arg Ser Ile Ser Met			
50	55	60	
Ala Leu Arg Glu Ile Ile Ser Gln Lys Gln Tyr Lys Ala Ser Asp Leu			
65	70	75	80
Phe Leu His Arg Glu Cys Trp His Ser Pro Met His His Gly Ser Phe			
85	90	95	
Ser Ala Ala Thr Leu Ala Asp Thr Leu Arg Asn Ile Gln Ser Arg Leu			
100	105	110	
Glu Gln Ala His Lys Glu Leu Lys Gln Leu Asp Arg Leu Met Leu Thr			
115	120	125	
Phe Gly Thr Ala Tyr Val Tyr Glu Gln Lys Glu Thr Gly Lys Val Val			
130	135	140	
Ala Asn Cys His Lys Leu Pro Glu Lys Asn Phe Ile Arg Arg Arg Leu			
145	150	155	160
Glu Ile Asp Glu Ile Val Glu Asp Tyr Thr Leu Leu Asp Glu Leu			
165	170	175	
Ile Ser Leu Asn Pro Gln Leu Lys Ile Leu Phe Thr Val Ser Pro Ile			
180	185	190	
Arg His Ile Arg Asp Gly Met His Ala Asn Gln Leu Ser Lys Ser Val			
195	200	205	
Leu Leu Leu Ala Ile Asp Arg Leu Met Gln Arg Tyr Pro Gln Val Thr			

210	215	220
Cys	Tyr Phe Pro Ser Tyr Glu Ile Val Leu Asp	Glu Leu Arg Asp Tyr
225	230	235
Arg	Phe Tyr Ala Asp Asp Met Val His Pro Ser Thr Leu Thr Val Asn	240
	245	250
Tyr	Leu Trp Glu Arg Phe Ser Glu Thr Phe Phe Thr Pro Glu Thr Gln	255
	260	265
Ser	Leu Ile Lys Glu Cys Glu Thr Ile Arg Lys Ala Ile Ala His Lys	270
	275	280
Pro	Phe His Pro Glu Ser Glu Glu His Lys Arg Phe Leu Gly Gln Ile	285
	290	295
Val	Leu Lys Ile Glu Arg Leu Asn Gly Lys Tyr Pro Tyr Leu Asp Phe	300
305	310	315
Glu	Lys Glu Thr Asn Met Cys Arg Leu Ala Leu Gln	320
	325	330

<210> 9489

<211> 79

<212> PRT

<213> B.fragilis

<400> 9489

Tyr	Asn Thr Val Met Thr Asn Leu Phe Leu Leu Gly Phe Met Pro Ser		
1	5	10	15
Gly	Ser Glu Trp Ile Ile Ile Leu Leu Val Ile Leu Leu Phe Gly		
	20	25	30
Gly	Lys Lys Ile Pro Glu Leu Met Arg Gly Leu Gly Lys Gly Val Lys		
	35	40	45
Ser	Phe Lys Glu Gly Val Asn Glu Ala Lys Glu Glu Ile Asn Lys Ala		
	50	55	60
Lys	Glu Glu Ile Asp Glu Pro Glu Asn Lys Glu Lys Lys Asp Asn		
65	70	75	

<210> 9490

<211> 61

<212> PRT

<213> B.fragilis

<400> 9490

Pro	His Pro Val Gly Tyr Asp Ile Leu Leu Pro Ala Pro Tyr Ala Val		
1	5	10	15
Thr	Trp Val His Tyr His Met Thr Asn Arg Tyr Asp Cys Gln Asn Phe		
	20	25	30
Asn	Cys Thr Tyr Arg Ser Tyr Arg Cys Arg Lys Asn Gly Val Lys Pro		
	35	40	45
Pro	His Ser Arg Ile Phe Gln Asp Glu Tyr His Phe Val		
	50	55	60

<210> 9491

<211> 135

<212> PRT

<213> B.fragilis

<400> 9491

Thr	Lys Ser Phe Arg Tyr Leu Cys Ser Asn Glu Glu Lys Val Met Lys		
1	5	10	15
Arg	Leu Thr Ala Lys Glu Glu Ile Met Gly Phe Phe Trp Glu Lys		
	20	25	30
Gly	Pro Leu Phe Val Lys Glu Ile Leu Ala Phe Tyr Asp Glu Pro Lys		

35	40	45
Pro His Phe Asn Thr Leu Ser	Thr Ile Val Arg Gly	Leu Glu Glu Lys
50	55	60
Gly Phe Leu Ala His His	Thr Tyr Gly Asn Thr	Tyr Gln Tyr Tyr Ala
65	70	75
Val Val Ser Glu Ser Asp Phe	Ser Lys Arg Thr	Leu Lys Ser Val Ile
85	90	95
Ser Lys Tyr Phe Asn Asn Ser	Tyr Leu Ser Ala Val Ser	Ser Leu Val
100	105	110
Lys Glu Glu Asp Ile Ser Leu Asp Asp	Leu Lys Lys Leu Ile	Gln Glu
115	120	125
Val Glu Gln Lys Asn Glu		
130	135	

<210> 9492

<211> 437

<212> PRT

<213> B.fragilis

<400> 9492

Asn Arg Glu Phe Cys Arg Cys Arg Pro	Cys Cys Cys Gln Arg	Ser Ala
1	5	10
Arg Ala Asn Gly Arg Thr Ala Glu Ser	Tyr Phe Ile Met Pro	His Glu
20	25	30
Arg Lys Ile Ile Asn Asp Pro Val Phe	Gly Phe Ile Asn Ile	Pro Lys
35	40	45
Gly Leu Leu Tyr Asp Ile Val Arg His	Pro Leu Leu Gln Arg	Leu Asn
50	55	60
Arg Ile Lys Gln Val Gly Leu Ser Ser	Val Val Tyr Pro	Gly Ala Gln
65	70	75
His Thr Arg Phe Gln His Ser Leu Gly	Ala Phe Tyr Leu Met	Ser Glu
85	90	95
Ala Ile Thr Gln Leu Ala Ser Lys Gly	Asn Phe Ile Phe Asp	Ser Glu
100	105	110
Ala Glu Ala Val Gln Ala Ala	Ile Leu Leu His Asp	Ile Gly His Gly
115	120	125
Pro Phe Ser His Val Leu Glu Asp Thr	Ile Val Lys Gly Val	Ser His
130	135	140
Glu Glu Ile Ser Leu Met Leu Met Glu	Arg Met Asn Arg Glu	Met Asn
145	150	155
Gly Gln Leu Ser Leu Ala Ile Gln Ile	Phe Lys Asp Glu	Tyr Pro Lys
165	170	175
Arg Phe Leu His Gln Leu Val Ser Gly	Gln Leu Asp Met Asp	Arg Leu
180	185	190
Asp Tyr Leu Arg Arg Asp Ser Phe	Tyr Thr Gly Val Ser	Glu Gly Asn
195	200	205
Ile Gly Ser Ala Arg Ile Ile Lys Met	Leu Asp Val Ala Asp	Asp His
210	215	220
Leu Val Val Glu Ser Lys Gly Ile Tyr	Ser Ile Glu Asn Phe	Leu Thr
225	230	235
Ala Arg Arg Leu Met Tyr Trp Gln Val	Tyr Leu His Lys Thr	Ser Val
245	250	255
Ala Tyr Glu Arg Met Leu Ile Ser Ala	Leu Leu Arg Ala Lys	Glu Leu
260	265	270
Ala Ser Lys Gly Val Glu Leu Phe	Ala Ser Pro Ala Leu	Lys Phe Phe
275	280	285
Leu Tyr Asn His Ile Asp Pro Glu Val	Phe Tyr Asn Asn Pro	Asp Cys
290	295	300
Leu Glu Asn Phe Ile Gln Leu Asp Asp	Asn Ile Trp Thr Ala	Leu

305	310	315	320
Lys Val Trp Ser Thr His Thr Asp Lys Val Leu Ser Thr Leu Ser Leu			
325	330	335	
Gly Met Ile Asn Arg Asn Ile Phe Lys Val Glu Ile Cys Ser Glu Pro			
340	345	350	
Ile Ser Glu Glu Arg Lys Lys Glu Leu Thr Leu Leu Ile Ser Arg Gln			
355	360	365	
Leu Gly Ile Thr Leu Ser Glu Ala Asp Tyr Phe Val Ser Thr Pro Ser			
370	375	380	
Ile Glu Lys Asn Met Tyr Asp Ser Ala Asp Asp Ser Ile Asp Ile Ile			
385	390	395	400
Tyr Lys Asp Gly Thr Ile Lys Asn Ile Ala Glu Ala Ser Asp Met Leu			
405	410	415	
Asn Ile Ser Leu Leu Ser Lys Lys Val Lys Lys Tyr Tyr Ile Cys Tyr			
420	425	430	
Leu Arg Trp Asp Arg			
435			

<210> 9493

<211> 287

<212> PRT

<213> B.fragilis

<400> 9493

Arg Val Ser Thr Val Thr Ala Ala Val Thr Pro Lys Thr Glu Met Glu			
1	5	10	15
Arg Thr Lys Ala Glu Thr Glu Thr Gly Lys Arg Lys Arg Arg Ile Ile			
20	25	30	
Thr Ala Arg Asn Lys Leu Pro Met Ala Lys His Arg Val His Ser Pro			
35	40	45	
Leu Arg Leu Met His Arg Arg Thr Thr Val Leu Ser Leu Tyr Lys Thr			
50	55	60	
Asn Ser Val His Val Val Asn Val Arg Lys Thr Ile Ile Ala Thr Thr			
65	70	75	80
Thr Asn His Val Lys Ile Met Ser Leu Val Asn Arg Val Ala Thr Arg			
85	90	95	
Thr Gly Lys Arg Val Lys Thr Asn Pro Val Asn Ser Ala Leu Leu Ala			
100	105	110	
Asn His Ala Asp Arg Ala Thr Met Asn Asn Leu Asn Val Ser Arg Lys			
115	120	125	
Leu Arg Lys Met Lys Ser Leu Leu Lys Asn Ser Ile Cys Met Leu Leu			
130	135	140	
Thr Thr Trp Val Leu Thr Ala Cys Asp Glu Asn Thr Val Tyr His Ser			
145	150	155	160
Tyr Gln Ser Thr Pro Pro Asp Gly Trp Lys Lys Ser Asp Thr Leu Phe			
165	170	175	
Phe Asn Val Ser Leu Lys Asp Ser Leu Ala Asn Leu Arg Leu Ser Val			
180	185	190	
Gly Val Arg Asn Ser Ser Asn Tyr Pro Tyr Gln Asn Leu Asn Ile Leu			
195	200	205	
Ile His Tyr Asn Leu Glu Asp Ser Thr Val Trp Lys Thr Asp Thr Leu			
210	215	220	
Lys Phe Ile Leu Thr Asp Arg Glu Gly Lys Trp Thr Gly Thr Asp Trp			
225	230	235	240
Gly Ser Leu Tyr Gln Ser Ala Leu Pro Leu Lys Asp Trp Phe Val Lys			
245	250	255	
His Pro Gly Asn Tyr Thr Phe Lys Ile Val His Glu Met Lys Asn Glu			
260	265	270	
Gln Leu Thr Gly Ile Ser Asp Val Gly Leu Lys Ile Glu His Leu			

275

280

285

<210> 9494
<211> 174
<212> PRT
<213> B.fragilis

<400> 9494

Leu	Asn	Asp	His	Pro	Trp	Asn	Phe	His	Pro	Val	Val	Lys	Thr	Ala	Asp
1															15
Ser	Ile	Lys	Val	Val	Leu	Gly	Met	Glu	Glu	Asp	Leu	Ala	Gly	Ala	Gly
							20	25					30		
Tyr	Asn	Val	Asn	Gln	Ser	Lys	Ile	Ala	Ile	Gly	Ser	Gly	Gly	Leu	Thr
							35	40				45			
Gly	Lys	Gly	Phe	Leu	Asn	Gly	Thr	Gln	Thr	Lys	Leu	Lys	Tyr	Val	Pro
							50	55			60				
Glu	Gln	Asp	Thr	Asp	Phe	Ile	Phe	Cys	Thr	Val	Gly	Glu	Gln	Gly	
							65	70		75		80			
Phe	Val	Gly	Ser	Ala	Ala	Val	Leu	Leu	Leu	Phe	Leu	Ala	Leu	Ile	Leu
							85		90			95			
Arg	Leu	Ile	Ala	Thr	Ser	Glu	Arg	Gln	Thr	Ser	Thr	Phe	Gly	Arg	Val
							100		105			110			
Tyr	Gly	Tyr	Ser	Val	Val	Ser	Ile	Phe	Leu	Phe	His	Leu	Phe	Ile	Asn
							115		120			125			
Ile	Gly	Met	Val	Leu	Gly	Leu	Thr	Pro	Val	Ile	Gly	Ile	Pro	Leu	Pro
							130		135			140			
Phe	Phe	Ser	Tyr	Gly	Gly	Ser	Ser	Leu	Trp	Gly	Phe	Thr	Ile	Leu	Leu
							145		150		155		160		
Phe	Ile	Phe	Leu	Arg	Ile	Asp	Ala	Gly	Arg	Ser	Ile	Arg	Leu		
							165			170					

<210> 9495
<211> 115
<212> PRT
<213> B.fragilis

<400> 9495

Gln	Lys	Val	Lys	Ser	Ser	Tyr	Arg	Lys	Arg	Lys	Asn	Lys	Arg	Arg	Lys
1							5		10			15			
Lys	Ile	Glu	Asn	Glu	Glu	Asn	Arg	Glu	Lys	Arg	Gly	Tyr	Phe	Leu	Gly
							20		25			30			
Lys	Gly	Ile	Ser	Ala	Gly	Pro	Lys	Gly	Ile	Val	Ala	Ile	Lys	Ala	Ser
							35		40			45			
Ile	Asp	Thr	Ile	Lys	Ala	Gly	Met	Ser	Val	Ile	Arg	Ile	Ser	Met	Ile
							50		55			60			
Val	Ile	Arg	Ala	Ser	Ile	Gly	Ala	Ile	Lys	Val	Ser	Ile	Gly	Ala	Ile
							65		70		75		80		
Arg	Ala	Gly	Ile	Gly	Val	Phe	Lys	Ala	Asn	Ala	Gly	Ala	Ile	Arg	Lys
							85		90			95			
Asn	Ile	Cys	Asp	Gln	Glu	Ser	Phe	Ile	Ile	Lys	Tyr	Phe	His	Lys	Gln
							100		105			110			
Asn	Leu	Gly													
							115								

<210> 9496
<211> 100
<212> PRT
<213> B.fragilis

<400> 9496

<210> 9497

<211> 63

<212> PRT

<213> B.fragilis

<400> 9497

Pro	Pro	Thr	Lys	Leu	Asp	Asp	Ile	Pro	Ser	Glu	Cys	Arg	Val	Val	Pro
1				5					10				15		
Phe	Gly	Asn	Leu	Arg	Ile	Asn	Gly	His	Leu	His	Leu	Pro	Glu	Ala	Tyr
				20				25					30		
Arg	Ser	Leu	Ser	Arg	Pro	Ser	Ser	Pro	Pro	Arg	Ala	Lys	Ala	Ser	Ala
				35				40				45			
Met	Arg	Pro	Tyr	Leu	Leu	Ser	Phe	Ile	Ala	Arg	Asp	His	Phe	Leu	
				50		55				60					

<210> 9498

<211> 362

<212> PRT

<213> B.*fragilis*

<400> 9498

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Gln Gln Lys Lys Asn His Asn Trp Glu Gln Arg Gln Ser Phe Gln Val
1 5 10 15
Leu Gln Arg Phe Arg Phe Ile Phe Phe Ser Tyr Phe Cys Pro Asn Met
20 25 30
His Pro Ser Ala Arg Ile Ala Lys Thr Asn Lys Lys Ile Met Arg Val
35 40 45
Ile Asp Leu Ile His Ser Asn Glu Lys Thr Ala Phe Ser Phe Glu Ile
50 55 60
Leu Pro Pro Leu Lys Gly Thr Gly Ile Glu Lys Leu Tyr Gln Thr Ile
65 70 75 80
Asp Thr Leu Arg Glu Phe Asp Pro Lys Tyr Ile Asn Ile Thr Thr His
85 90 95
Arg Ser Glu Tyr Val Tyr Arg Asp Leu Gly Asn Gly Leu Phe Gln Arg
100 105 110
Asn Arg Leu Arg Arg Arg Pro Gly Thr Val Ala Val Ala Ala Ala Ile
115 120 125
Gln Asn Lys Tyr Asn Ile Thr Val Val Pro His Ile Leu Cys Ser Gly
130 135 140
Phe Thr Gln Glu Glu Thr Glu Tyr Val Leu Leu Asp Leu Gln Phe Leu
145 150 155 160
Gly Ile Thr Asp Leu Leu Val Leu Arg Gly Asp Lys Ala Lys His Glu
165 170 175

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Thr Val Phe Thr Pro Glu Gly Asp Gly His His His Ala Leu Asp Leu
 180 185 190
 Gln Gln Gln Ile Asn Asn Phe Asn Lys Gly Ile Phe Val Asp Gly Ser
 195 200 205
 Glu Met Lys Val Thr Asn Thr Pro Phe Ser Tyr Gly Val Ala Cys Tyr
 210 215 220
 Pro Glu Lys His Glu Glu Ala Pro Asn Ile Asp Met Asp Ile Tyr Trp
 225 230 235 240
 Leu Lys Lys Val Glu Ala Gly Ala Glu Tyr Ala Val Thr Gln Leu
 245 250 255
 Phe Tyr Asp Asn Lys Lys Tyr Phe Glu Phe Val Glu Lys Val His Gln
 260 265 270
 Ala Gly Ile Asp Ile Pro Ile Ile Pro Gly Ile Lys Pro Phe Lys Lys
 275 280 285
 Ile Ser Gln Leu Asn Met Val Pro Lys Thr Phe Lys Val Asp Leu Pro
 290 295 300
 Glu Glu Leu Thr Lys Glu Ala Leu Lys Cys Gln Thr Asp Glu Glu Ala
 305 310 315 320
 Arg Gln Val Gly Ile Glu Trp Cys Ile Ser Gln Cys Lys Glu Leu Met
 325 330 335
 Ala Ala Gly Val Pro Ser Ile His Phe Tyr Ser Ile Gly Ala Val Asp
 340 345 350
 Ser Ile Lys Glu Val Ala Lys Ala Ile Tyr
 355 360

<210> 9499

<211> 60

<212> PRT

<213> B.fragilis

<400> 9499

Ala His Gly Phe Arg Asp Tyr Phe Thr Leu Leu Phe Glu Val Leu Phe
 1 5 10 15
 Thr Phe Pro Ser Gln Tyr Trp Phe Ala Ile Gly Leu Ser Gly Val Phe
 20 25 30
 Ser Leu Thr Gly Trp Ser Arg Leu Ile His Ala Glu Phe Leu Val Leu
 35 40 45
 Arg Ala Thr Gln Asp Thr Thr Leu Arg Leu Pro
 50 55 60

<210> 9500

<211> 95

<212> PRT

<213> B.fragilis

<400> 9500

Pro Tyr Arg Met Val Pro Ala Asp Ser Arg Arg Ile Pro Arg Ala Pro
 1 5 10 15
 Arg Tyr Ser Gly Tyr His Tyr Ala Ser Val Thr Leu Glu Tyr Arg Ala
 20 25 30
 Ile Thr Val Tyr Gly Thr Thr Phe Gln Ser Phe Leu Leu Asn Asn Cys
 35 40 45
 Leu Ala Arg Ala Trp Ser Tyr Asn Pro Thr His Ala Val Thr Trp Val
 50 55 60
 Val Trp Ala Asn Pro Arg Ser Leu Ala Thr Thr Arg Gly Ile Ile Ile
 65 70 75 80
 Tyr Phe Leu Phe Leu Gln Val Leu Arg Cys Phe Ser Ser Leu Arg
 85 90 95

<210> 9501
<211> 492
<212> PRT
<213> B.fragilis

<400> 9501

Ser	Asn	Asn	Phe	Lys	Ile	Lys	Tyr	Met	Glu	Phe	Lys	Leu	His	Asn	Gly
1					5				10					15	
Ser	Gly	Gly	Leu	Cys	Cys	Lys	Ser	Cys	Ser	Arg	Gln	Asp	Lys	Lys	Leu
					20				.25					30	
Asn	Thr	Tyr	Asp	Trp	Leu	Ala	Asp	Ile	Pro	Gly	Asn	Ala	Glu	Glu	Ser
					35				40					45	
Asp	Met	Val	Glu	Val	Gln	Phe	Lys	Asn	Thr	Arg	Lys	Gly	Tyr	Tyr	Arg
					50				55				60		
Asn	Ser	Asn	Lys	Ile	Lys	Leu	Glu	Lys	Gly	Asp	Ile	Val	Ala	Val	Glu
					65				70				75		80
Ala	Thr	Pro	Gly	His	Asp	Ile	Gly	Thr	Val	Thr	Leu	Thr	Gly	Arg	Leu
					85				90				95		
Val	Pro	Leu	Gln	Met	Lys	Lys	Ala	Asn	Phe	Lys	Gln	Asp	Ala	Glu	Ile
					100				105				110		
Lys	Arg	Ile	Tyr	Arg	Lys	Ala	Lys	Ala	Val	Asp	Met	Glu	Lys	Tyr	Glu
					115				120				125		
Glu	Ala	Lys	Ala	Lys	Glu	His	Thr	Thr	Met	Ile	Arg	Ala	Arg	Gln	Ile
					130				135				140		
Ala	Ala	Ser	Leu	Asn	Leu	Asp	Met	Lys	Ile	Gly	Asp	Val	Glu	Tyr	Gln
					145				150				155		160
Gly	Asp	Gly	Asn	Lys	Ala	Ile	Phe	Tyr	Tyr	Ile	Ala	Asp	Glu	Arg	Val
					165				170				175		
Asp	Phe	Arg	Gln	Leu	Ile	Lys	Val	Leu	Ala	Glu	Ala	Phe	Arg	Val	Arg
					180				185				190		
Ile	Glu	Met	Lys	Gln	Ile	Gly	Ala	Arg	Gln	Glu	Ala	Gly	Arg	Ile	Gly
					195				200				205		
Gly	Ile	Gly	Pro	Cys	Gly	Arg	Glu	Leu	Cys	Cys	Ala	Thr	Trp	Met	Thr
					210				215				220		
Ser	Phe	Val	Ser	Val	Ser	Thr	Ser	Ala	Ala	Arg	Tyr	Gln	Asp	Ile	Ser
					225				230				235		240
Leu	Asn	Pro	Gln	Lys	Leu	Ala	Gly	Gln	Cys	Ala	Lys	Leu	Lys	Cys	Cys
					245				250				255		
Leu	Asn	Tyr	Glu	Val	Asp	Cys	Tyr	Val	Glu	Ala	Gln	Lys	Arg	Leu	Pro
					260				265				270		
Ser	Arg	Glu	Ile	Glu	Leu	Glu	Thr	Lys	Asp	Gly	Thr	Tyr	Tyr	Phe	Phe
					275				280				285		
Lys	Ala	Asp	Ile	Leu	Ser	Asn	Gln	Ile	Ser	Tyr	Ser	Thr	Asp	Lys	Asn
					290				295				300		
Phe	Ala	Ala	Asn	Leu	Val	Thr	Ile	Ser	Gly	Lys	Arg	Ala	Phe	Glu	Val
					305				310				315		320
Ile	Gly	Leu	Asn	Lys	Arg	Gly	Ile	Lys	Pro	Asp	Ser	Leu	Glu	Ala	
					325				330				335		
Glu	Arg	Lys	Pro	Glu	Pro	Lys	Lys	Pro	Val	Asp	Leu	Glu	Gln	Glu	
					340				345				350		
Ser	Leu	Thr	Arg	Phe	Asp	Arg	Asp	Arg	Arg	Asn	Ala	Lys	Asp	Gly	
					355				360				365		
Asn	Gly	Lys	Asp	Glu	Gly	Gly	Asn	Gly	Asn	Arg	Lys	Lys	Lys	Lys	
					370				375				380		
Asn	Asn	Asn	Arg	Pro	Gln	Gln	Ala	Ala	Asn	Gly	Glu	Thr	Gln	Ser	Ser
					385				390				395		400
Gln	Pro	Thr	Pro	Ile	Asn	Ala	Gln	Glu	Asn	Asn	Gly	Ser	Gln	Pro	Val
					405				410				415		
Gln	Asn	Gln	Gln	Arg	Thr	Arg	Gly	Glu	Arg	Pro	Lys	Asn	Asn	Arg	

420	425	430
Asn Asn Asn Gln Pro Arg Lys Asn Asn Glu Ser Arg Glu Pro Arg Ser		
435	440	445
Asn Glu Asn Arg Glu Thr Arg Lys Asn Glu Pro Arg Glu Gln Arg Pro		
450	455	460
Pro Arg Glu Pro Arg Gly Pro Arg Asn Asn Glu Gln Pro Lys Arg Ile		
465	470	475
Glu Lys Ala Gln Glu Asn Glu Lys Pro Ala Gln Glu		
485	490	

<210> 9502

<211> 370

<212> PRT

<213> B.fragilis

<400> 9502

Ala Met Phe Phe Arg Asp Val Ile Gly Gln Glu Ala Lys Tyr Arg			
1	5	10	15
Leu Ile Gln Glu Val Ser Glu Gly Arg Ile Pro His Ala Gln Leu Phe			
20	25	30	
Cys Gly Pro Glu Gly Val Gly Lys Phe Pro Leu Ala Leu Ala Tyr Ala			
35	40	45	
Arg Tyr Leu Ser Cys Thr Asn Arg Ser Asp Thr Asp Ala Cys Gly Val			
50	55	60	
Cys Pro Ser Cys Val Lys Phe Asn Lys Leu Val His Pro Asp Val His			
65	70	75	80
Phe Val Phe Pro Val Val Lys Asn Gly Arg Ser Asp Asp Tyr Ile Val			
85	90	95	
Glu Trp Arg Lys Leu Val Leu Asn Asn Pro Tyr Phe Thr Ile Asn His			
100	105	110	
Trp Leu Asn Glu Ile Asn Ala Glu Asn Ala Gln Ala Val Ile Tyr Thr			
115	120	125	
Lys Glu Ser Asp Glu Ile Met Lys Lys Leu Ser Leu Lys Ser Ser Glu			
130	135	140	
Gly Gly Phe Lys Ile Thr Leu Leu Trp Leu Pro Glu Lys Met Gln Gln			
145	150	155	160
Ala Cys Ala Asn Lys Leu Leu Lys Leu Leu Glu Glu Pro Pro Glu Lys			
165	170	175	
Thr Ile Phe Leu Leu Val Ser Glu Ala Pro Asp Leu Ile Leu Gln Thr			
180	185	190	
Ile Leu Ser Arg Thr Gln Arg Phe Asn Leu Arg Lys Ile Glu Glu Glu			
195	200	205	
Cys Met Ala Glu Ala Leu Gln Ser Lys Tyr Gly Val Gln Gln Ala Thr			
210	215	220	
Ser Ile Ser Ile Ala His Leu Ala Asn Gly Asn Phe Ile Lys Ala Leu			
225	230	235	240
Glu Thr Ile His Leu Asn Glu Glu Asn Gln Leu Phe Phe Glu Leu Phe			
245	250	255	
Val Ser Leu Met Arg Leu Ser Tyr Gln Arg Lys Ile Arg Glu Met Lys			
260	265	270	
Leu Trp Ser Glu Gln Val Ala Gly Met Gly Arg Glu Arg Gln Lys Asn			
275	280	285	
Phe Leu Glu Tyr Cys Gln Arg Met Ile Arg Glu Asn Phe Ile Tyr Asn			
290	295	300	
Leu His Arg Lys Glu Leu Thr Tyr Met Thr Leu Glu Glu Gln Asn Phe			
305	310	315	320
Ala Thr Arg Phe Ala Pro Phe Val Asn Glu Arg Asn Val Met Gly Ile			
325	330	335	
Met Asp Glu Leu Ser Glu Ala Gln Lys His Ile Glu Gln Asn Val Asn			

340	345	350
Ala Lys Met Val Phe Phe Asp Phe Ser Leu Lys Met Ile Val Leu Leu		
355	360	365
Lys Gln		
370		

<210> 9503
<211> 97
<212> PRT
<213> B.fragilis

<400> 9503

Ser Gln Gly Ser Ser Ser Gly Ile Ala Gly Ala Gly Asp Phe Val Ala		
1	5	10
Pro Gly Pro Leu Phe Arg Gly Gly Thr Val Gly Lys Ile Ala Val Gly		
20	25	30
Ser Lys Val Val Arg Lys Ala Val Pro Leu Arg Gly Asp Asp Leu Thr		
35	40	45
Gly Arg Pro Val Val Thr Gly Asp Leu Asn Arg Ile Ile Val Pro Pro		
50	55	60
Pro Gly Gly Ser Leu Pro Phe Ala Gly Pro Tyr Ala Leu Gln Gly		
65	70	75
Asn Gly Val Leu Val Phe Arg Val Met His Pro Ile Tyr Gln Phe Arg		
85	90	95

Ser

<210> 9504
<211> 828
<212> PRT
<213> B.fragilis

<400> 9504

Val Ala Arg Ser Phe Gln Pro Arg Gly Glu Asp Glu Arg Leu Gly Ile		
1	5	10
Pro Ala Phe Lys Leu Ala Asp Gly Pro Leu Gly Val Ala Ser Trp Gly		
20	25	30
Leu Phe Gly Arg Ala Thr Ala Phe Pro Ser Ala Leu Ser Leu Ala Ala		
35	40	45
Ser Trp Asn Lys Asn Leu Ala Glu Lys Thr Gly Ala Met Tyr Ala Gln		
50	55	60
Glu Trp Arg Ala Arg Gly Ile His Phe Leu Leu Ala Pro Gly Val Asn		
65	70	75
Asn Tyr Arg Ala Ser Lys Gly Ala Arg Asn Phe Glu Tyr Phe Gly Glu		
85	90	95
Asp Pro Tyr Leu Ala Ser Glu Met Val Val Pro Phe Ile Lys Ala Val		
100	105	110
Gln Asp Gly Gly Val Ile Ala Thr Ile Lys His Phe Ala Ala Asn Asp		
115	120	125
Gln Glu Phe Asp Arg Tyr Thr Val Ser Thr Glu Val Ser Glu Arg Ala		
130	135	140
Leu Gln Glu Ile Tyr Leu Pro Pro Phe Lys Ala Ala Val Gln Lys Ala		
145	150	155
Gly Val Lys Ala Val Met Thr Gly Tyr Asn Leu Val Asn Gly Val Tyr		
165	170	175
Cys Thr Glu Asn Lys His Leu Ile Asp Ile Leu Lys Lys Asp Trp Gly		
180	185	190
Phe Lys Gly Met Leu Met Ser Asp Trp Ala Cys Thr Tyr Ser Ala Glu		
195	200	205

Asn Ala Ala Asn Tyr Gly Leu Asp Leu Glu Met Gly Ser Asn Asp Trp
 210 215 220
 Phe Thr Arg Lys Glu Leu Leu Pro Leu Val Lys Glu Gly Lys Val Thr
 225 230 235 240
 Glu Glu Val Ile Asn Asp Lys Val Arg Arg Ile Tyr Gly Ala Cys Ile
 245 250 255
 Ser Met Gly Phe Phe Asp Arg Pro Gln Gln Asp Thr Asp Ile Pro Thr
 260 265 270
 Phe Asn Pro Gln Ala Asn Gln Met Ala Leu Asn Thr Ala Cys Glu Gly
 275 280 285
 Ile Ile Leu Leu Lys Asn Glu Gln Asn Thr Leu Pro Ile His Arg Pro
 290 295 300
 Lys Val Ile Ala Val Ile Gly Pro Thr Ala Asn Pro Ala Ile Val Ser
 305 310 315 320
 Asp Arg Ile Tyr Asn Val Asn Ser Ile Val Tyr Gly Gly Gly Ser
 325 330 335
 Ser Lys Val His Pro Trp Tyr Val Val Ser Ala Leu Glu Gly Ile Arg
 340 345 350
 Gln Glu Phe Pro Glu Ala Thr Val Leu Tyr Thr Glu Gly Ile Ser Asn
 355 360 365
 Gln Phe Lys Pro Arg Leu Phe Arg Asn Ser Lys Phe Arg Thr Lys Glu
 370 375 380
 Ser Lys Pro Gly Leu Glu Ala Ser Tyr Tyr Ala Leu Ser Ser Asp Thr
 385 390 395 400
 Ser Ala Thr Leu Ser Asp Lys Met Ile Gln Gln Gln Ala Val Ala Ala
 405 410 415
 Gly Arg Thr Val Ser Val Asn Gln Ser Ala Asp Arg Thr Val Glu Thr
 420 425 430
 Asp Lys Glu Glu Ser Gly Leu Ile Leu Arg Arg Thr Asp Arg Thr Val
 435 440 445
 Asn Tyr Glu Trp Trp Gly Tyr Pro Phe Asn Glu Ser Lys Leu Gly Asn
 450 455 460
 Asp Tyr Arg Val Cys Trp Glu Gly Tyr Val Asp Val Glu Lys Thr Asp
 465 470 475 480
 Ser Ile Arg Phe Phe Val Asp Ala Gln Gly Ala Tyr Arg Leu Trp Ile
 485 490 495
 Asp Gly Thr Leu Ala Leu Asp Ala Ser Gln Ser Gln Ser Phe Asp Val
 500 505 510
 Arg Asn Thr Ala Ile Ser Ala Lys Lys Gly Asp Ala Lys His Ile Arg
 515 520 525
 Leu Glu Phe Cys Asn Gln Arg Ser Thr Pro Ala Glu Ile Arg Met Gly
 530 535 540
 Tyr Ala Tyr Gln Ser Asp Ile Asp Phe Ser Glu Ala Lys Arg Leu Ala
 545 550 555 560
 Ala Lys Ala Asp Leu Val Val Phe Cys Ala Gly Leu Asp Gly Ser Ile
 565 570 575
 Glu Leu Glu Gly Arg Asp Arg Pro Phe Asp Leu Pro Tyr Gly Gln Asp
 580 585 590
 Met Leu Ile Gln Glu Leu Val Lys Val Asn Pro Lys Leu Ile Val Ala
 595 600 605
 Ile His Ala Gly Gly Ile Asn Met Thr Arg Trp Ile Asp Gln Val
 610 615 620
 Pro Ala Val Val His Ala Leu Tyr Pro Gly Gln Glu Gly Gly His Ala
 625 630 635 640
 Leu Ala His Ile Leu Ser Gly Lys Val Asn Pro Ser Ala Lys Leu Pro
 645 650 655
 Phe Thr Ile Glu Lys Arg Trp Glu Asp Ser Pro Ala Cys Gly His Tyr
 660 665 670
 Asp Glu Thr Arg Lys Glu Lys Lys Val Tyr Tyr Glu Gly Ile Phe

675	680	685
Thr Gly Tyr Arg Gly Tyr Asp Gln Lys Gly Ile Glu Pro Leu Phe Pro		
690	695	700
Phe Gly Phe Gly Leu Ser Tyr Thr Thr Phe Asp Tyr Ser Gly Leu Asn		
705	710	715
Ile Arg Met Thr Asp Lys Lys Gln Lys Gln Leu Val Val Ser Phe Thr		
725	730	735
Val Thr Asn Thr Gly Gln Arg Asp Gly Tyr Glu Val Ala Gln Leu Tyr		
740	745	750
Val Arg Asp Met Gln Ser Lys Glu Pro Arg Pro Leu Lys Glu Leu Lys		
755	760	765
Gly Phe Asp Lys Val Tyr Leu Lys Ala Gly Glu Ser Lys Gln Ile Glu		
770	775	780
Ile Gly Leu Ser Glu Asp Ala Phe Gln Tyr Phe Asn Ala Lys Gln Ser		
785	790	795
Arg Trp Val Phe Glu Lys Gly Glu Phe Glu Ile Leu Val Gly Ala Ser		
805	810	815
Ser Lys Asp Ile Arg Leu Ala Glu Lys Ile Lys Met		
820	825	

<210> 9505

<211> 325

<212> PRT

<213> B.fragilis

<400> 9505

Ile Glu Lys Pro Ile Lys Lys Met Asp Tyr Ile Ser Phe Leu Ser Leu		
1	5	10
Tyr Leu Trp Arg Glu Pro Met Asn Leu Ile Ser Met Ala Lys Gln Lys		
20	25	30
Asp Gly Phe Leu Gly Glu Gln Ala Leu Val Leu Pro Pro Ala Ile Val		
35	40	45
Gln Arg Met Lys Thr Asp Pro Ala Thr Ser Ile Leu Tyr Ile Thr Asp		
50	55	60
Ile Gly Tyr Tyr Pro Lys Ala Tyr Asn His Phe Arg Glu Arg Asp Thr		
65	70	75
Pro Ile Asp Gln Tyr Val Phe Ile Tyr Cys Thr Glu Gly Arg Gly Trp		
85	90	95
Phe Ser Leu Asp Gly Gln Lys His Pro Val Val Pro Asn Gln Tyr Phe		
100	105	110
Ile Leu Pro Ala Gly Leu Pro His Ala Tyr Gly Ala Asp Glu Lys Glu		
115	120	125
Pro Trp Thr Ile Tyr Trp Ile His Phe Gly Gly Thr Leu Ala Pro Leu		
130	135	140
Tyr Cys Thr His Arg Thr Cys Arg Leu Thr Asp Ile Lys Pro Gly Met		
145	150	155
His Ser Arg Ile Ser Tyr Arg Thr Glu Leu Phe Glu Glu Ile Phe Arg		
165	170	175
Val Leu Lys Met Gly Tyr Ser Leu Glu Asn Leu Ser Tyr Ala Ser Ser		
180	185	190
Val Phe His His Tyr Leu Gly Ser Leu Arg Tyr Leu Arg Glu Tyr Arg		
195	200	205
Glu Ala Phe Ser Glu His Arg Pro Ala Gly Glu Glu Asp Pro Val Asn		
210	215	220
Ala Ala Ile His Tyr Met Lys Glu Asn Leu Gly Lys Lys Leu Thr Leu		
225	230	235
Ala Glu Leu Ala Asp Tyr Thr Gly Tyr Ser Ser Ser Tyr Phe Ser Asn		
245	250	255
Leu Phe Leu Lys Arg Thr Gly Tyr Ala Pro Leu Ser Tyr Phe Asn Gln		

260	265	270
Ile Lys Ile Gln Lys Ala Cys Gln Phe Leu Asp Phe Thr Asp Met Lys		
275	280	285
Val Asn Gln Val Cys Tyr Arg Val Gly Ile Glu Asp Ala Tyr Tyr Phe		
290	295	300
Ser Arg Leu Phe Ser Gln Ile Met Gly Met Ser Pro Arg Glu Tyr Lys		
305	310	315
Lys Val Lys Lys Gly		
325		

<210> 9506

<211> 348

<212> PRT

<213> B.fragilis

<400> 9506

Arg Ser Leu Tyr Gly Asp Cys Tyr Ser His Cys Ile Tyr Asn Ser Thr			
1	5	10	15
Ser Leu Lys Val Glu His Tyr Lys Leu Ile Phe Phe Asn Ile Met Lys			
20	25	30	
Ile Lys Leu Leu Leu Leu Cys Cys Gly Leu Trp Ser Ser Cys Asn			
35	40	45	
Ser Tyr Asp Tyr Cys Pro Val Thr Pro Ser Glu Ser Asp Leu Val Phe			
50	55	60	
Thr Gly Leu Ala Arg Ser Trp Asp Glu Ala Met Pro Leu Gly Asn Ala			
65	70	75	80
Thr Val Gly Ala Leu Val Trp Gln Arg Asp Ser Thr Leu Arg Leu Ser			
85	90	95	
Leu Asp Arg Thr Asp Leu Trp Asp Leu Arg Pro Val Asp Ser Leu Ser			
100	105	110	
Gly Asp Asn Phe Arg Phe Ser Trp Val Lys Glu His Ile Arg Gln Lys			
115	120	125	
Asn Tyr Leu Pro Val Gln Lys Lys Leu Asp Trp Pro Tyr Asp Met Asn			
130	135	140	
Pro Ala Pro Ser Lys Ile Pro Gly Ala Ala Ile Glu Phe Pro Leu Glu			
145	150	155	160
Gln Ile Gly Thr Pro Thr Gln Val Arg Leu Tyr Leu Asn Asn Ala Leu			
165	170	175	
Cys Glu Ala Asp Trp Ala Asp Gly Thr Gln Met Gln Thr Phe Val His			
180	185	190	
Ala Thr Glu Pro Ile Gly Trp Phe Val Phe Arg Asn Leu Lys Thr Pro			
195	200	205	
Ile Glu Pro Ser Ile Ile Thr Pro Val Tyr Asn Lys Thr Lys Pro Asp			
210	215	220	
Gly Ser Leu Asp Pro Val Ser Gly Gln Asp Leu His Arg Leu Gly Tyr			
225	230	235	240
Gln Gln Gly Lys Val Val Arg Glu Gly Asn Gln Ile Thr Tyr His Gln			
245	250	255	
Lys Gly Tyr Gly Asp Phe Ser Tyr Asp Val Thr Val Cys Trp Lys Gln			
260	265	270	
Glu Gly Glu Thr Leu Tyr Gly Thr Trp Ser Val Thr Ser Ser Leu Ser			
275	280	285	
Gly Glu Gln Ala Ser Glu Lys Ala Glu Ala Ala Leu Gln Arg Gly Val			
290	295	300	
Lys His Asp Tyr Gln Ala Pro Leu Glu Tyr Trp Asp Arg Tyr Trp Ala			
305	310	315	320
Gln Ser Cys Ile Thr Leu Pro Asp Ala Asp Trp Lys Asn Arg Leu Arg			
325	330	335	
Pro Lys Leu Ile Asn Arg Val His Tyr Pro Glu His			

340

345

<210> 9507

<211> 482

<212> PRT

<213> B.fragilis

<400> 9507

Ser	Val	Ser	Leu	Phe	Ile	Ser	Ile	Leu	Lys	Pro	Ala	Tyr	Phe	Ala	Ile
1			5					10						15	
Ser	Ile	Lys	Pro	Phe	Asn	Asn	Met	Lys	Gln	Thr	Arg	Gly	Tyr	Leu	Leu
		20						25						30	
Leu	Ile	Cys	Ile	Val	Ser	Ala	Met	Gly	Gly	Leu	Leu	Phe	Gly	Tyr	Asp
		35					40					45			
Trp	Val	Val	Ile	Gly	Gly	Ala	Lys	Ile	Phe	Tyr	Glu	Pro	Phe	Phe	Gly
		50					55				60				
Ile	Glu	Asn	Ser	Ala	Ala	Leu	Arg	Gly	Trp	Ala	Met	Ser	Ser	Ala	Leu
	65					70				75				80	
Ile	Gly	Cys	Leu	Ala	Gly	Ala	Leu	Leu	Ser	Gly	Ile	Trp	Ser	Asp	Lys
		85					90						95		
Tyr	Gly	Arg	Lys	Lys	Met	Leu	Val	Ile	Ala	Ser	Phe	Leu	Phe	Ala	Leu
		100					105					110			
Ser	Ala	Trp	Gly	Thr	Gly	Ala	Val	Asp	His	Phe	Ser	Tyr	Phe	Ile	Phe
		115					120					125			
Tyr	Arg	Ile	Val	Gly	Gly	Leu	Gly	Ile	Gly	Ile	Ala	Ser	Asn	Ile	Ser
		130					135				140				
Pro	Val	Tyr	Ile	Ala	Glu	Val	Ser	Pro	Ala	His	Val	Arg	Gly	Lys	Phe
	145				150					155				160	
Val	Ser	Leu	Asn	Gln	Leu	Thr	Ile	Val	Leu	Gly	Ile	Leu	Leu	Ala	Gln
						165			170				175		
Leu	Ala	Asn	Trp	Gln	Ile	Gly	Glu	Tyr	Tyr	Thr	Gln	Gly	Ser	Asp	Ile
						180			185				190		
Leu	Ser	Glu	Thr	Ser	Val	Gln	Trp	Ala	Trp	Arg	Trp	Met	Phe	Trp	Ala
		195				200					205				
Glu	Leu	Ile	Pro	Ala	Gly	Ile	Phe	Phe	Leu	Leu	Ser	Phe	Ile	Ile	Pro
	210					215					220				
Glu	Ser	Pro	Arg	Trp	Leu	Ala	Thr	Val	His	Gln	Gln	Glu	Lys	Ala	Gln
	225				230					235				240	
Lys	Thr	Leu	Thr	Arg	Ile	Gly	Gly	Glu	Thr	Tyr	Ala	Arg	Gln	Thr	Leu
						245			250				255		
Glu	Glu	Leu	Asn	Gln	Leu	Thr	Gln	Ser	Gln	Gly	Asn	Arg	Gln	Asn	Asn
						260			265				270		
Glu	Trp	Lys	Ser	Val	Phe	Arg	Pro	Glu	Met	Arg	Lys	Val	Leu	Ile	Ile
		275				280					285				
Gly	Ile	Val	Leu	Ala	Ile	Phe	Gln	Gln	Trp	Cys	Gly	Ile	Asn	Val	Ile
		290				295					300				
Phe	Asn	Tyr	Ala	His	Glu	Ile	Phe	Ser	Ser	Ala	Gly	Tyr	Ala	Val	Ser
	305				310					315				320	
Asp	Val	Leu	Met	Asn	Ile	Val	Val	Thr	Gly	Ile	Thr	Asn	Val	Ile	Phe
						325			330				335		
Thr	Phe	Val	Ala	Ile	Tyr	Thr	Val	Asp	Lys	Trp	Gly	Arg	Arg	Thr	Leu
						340			345				350		
Met	Leu	Ile	Gly	Ser	Ala	Gly	Leu	Ala	Leu	Ile	Tyr	Leu	Ile	Leu	Gly
			355				360					365			
Thr	Cys	Tyr	Phe	Leu	Asp	Val	Asn	Gly	Leu	Pro	Met	Leu	Leu	Leu	Val
	370					375					380				
Val	Leu	Ala	Ile	Ala	Cys	Tyr	Ala	Met	Ser	Leu	Ala	Pro	Val	Val	Trp
	385					390					395				400
Val	Val	Leu	Ser	Glu	Ile	Phe	Pro	Val	Lys	Ile	Arg	Gly	Met	Ala	Ile

405	410	415
Ala Ile Ser Thr Phe Phe Leu Trp Val Ala Cys Phe Ile Leu Thr Tyr		
420	425	430
Thr Phe Pro Val Leu Asn Glu Ser Ile Gly Ala Glu Gly Thr Phe Trp		
435	440	445
Leu Tyr Gly Gly Ile Cys Leu Ala Gly Phe Leu Phe Ile Arg Gln Asn		
450	455	460
Leu Pro Glu Thr Lys Gly Lys Thr Leu Glu Glu Ile Glu Lys Glu Leu		
465	470	475
Ile Lys		

<210> 9508

<211> 1102

<212> PRT

<213> B.fragilis

<400> 9508

Asn Lys Met Lys Glu Ser Val Asn Val Trp Glu Glu Asp Ile Leu Leu			
1	5	10	15
Pro Thr Tyr Gly Ile Gly Arg Pro Glu Lys Asn Pro Met Phe Leu Glu			
20	25	30	
Lys Arg Val Tyr Gln Gly Ser Ser Gly Ala Val Tyr Pro Tyr Pro Val			
35	40	45	
Ile Glu Lys Ile Glu Asp Thr Cys Glu Glu Lys Ser Tyr His Ala Val			
50	55	60	
Trp Leu Glu Asn Glu Tyr Ile Lys Val Met Ile Leu Pro Glu Leu Gly			
65	70	75	80
Gly Arg Ile Gln Met Ala Phe Asp Lys Val Lys Gln Arg His Phe Ile			
85	90	95	
Tyr Tyr Asn His Val Ile Lys Pro Ala Leu Val Gly Leu Thr Gly Pro			
100	105	110	
Trp Ile Ser Gly Ile Glu Phe Asn Trp Pro Gln His His Arg Pro			
115	120	125	
Ser Thr Phe Leu Pro Val Asp Tyr Ser Ile Glu Arg Cys Lys Asp Gly			
130	135	140	
Ser Val Val Val Trp Val Ser Glu Arg Glu Arg Met Phe Gly Gln Lys			
145	150	155	160
Gly Thr Ala Gly Phe Thr Leu Arg Pro Gly Arg Ala Val Leu Glu Ile			
165	170	175	
Gln Gly Lys Val Ser Asn Pro Thr Pro Leu Pro Gln Thr Phe Leu Trp			
180	185	190	
Trp Ala Asn Pro Ala Val Ala Val Asn Asp Cys Tyr Gln Ser Val Phe			
195	200	205	
Pro Ser Asp Val Asn Ala Val Phe Asp His Gly Lys Arg Asp Val Ser			
210	215	220	
Arg Tyr Pro Ile Ala Thr Gly Thr Tyr Tyr Lys Met Asp Tyr Ser Ala			
225	230	235	240
Gly Val Asp Ile Ser Arg Tyr Lys Asn Ile Pro Val Pro Thr Ser Tyr			
245	250	255	
Met Ala Ile Arg Ser Asn Tyr Asn Phe Val Gly Gly Tyr Glu Asn Asp			
260	265	270	
Thr Gln Ala Gly Val Leu His Val Ala Asn His His Ile Ser Pro Gly			
275	280	285	
Lys Lys Gln Trp Thr Trp Gly Asn Gly Asp Phe Gly Gln Ala Trp Asp			
290	295	300	
Arg Asn Leu Thr Asp Ala Asp Gly Pro Tyr Ile Glu Leu Met Thr Gly			
305	310	315	320
Val Tyr Thr Asp Asn Gln Pro Asp Phe Ser Trp Leu Gln Pro Tyr Glu			

325	330	335
Glu Lys Thr Phe Thr Gln Tyr Phe Met	Pro Tyr Arg Glu Leu	Gly Val
340	345	350
Val Lys Asn Ala Ser Ser Glu Leu Leu Met Asn Leu	Glu Thr Glu Gly	
355	360	365
Glu Glu Cys Arg Leu Lys Leu Phe Ala Thr Ser Ala	Gln Gln Gly Leu	
370	375	380
Arg Ile Val Val Arg Gln Ala Gly Val Ile Arg Phe	Glu Ile Gly	
385	390	395
Ser Leu Ser Pro Glu Gln Val Phe Asp Arg Leu Ile	Pro Ile Asn Asp	
405	410	415
Leu His Glu Ala Glu Val Ile Ile Tyr Asp Thr Asn	Gly Arg Lys Lys	
420	425	430
Leu Ser Trp Lys Ala Glu Pro Glu Thr Ile Lys Ala	Val Pro Glu Ala	
435	440	445
Ala Lys Pro Ala Leu Ala Pro Glu Glu Ile Lys	Thr Asn Glu Glu Leu	
450	455	460
Tyr Leu Thr Gly Leu His Leu Glu Gln Tyr Arg His	Ala Thr Tyr Cys	
465	470	475
Pro Thr Asp Tyr Tyr Arg Glu Ala Leu Arg Arg Asp	Asn Gly Asp Ala	
485	490	495
Arg Cys Asn Asn Ala Met Gly Leu Trp Leu Ile Arg	Lys Gly Glu Phe	
500	505	510
Ala Gln Ala Glu Pro Tyr Leu Arg Asn Ala Ile Ala	Arg Leu Thr Glu	
515	520	525
Lys Asn Pro Asn Pro Tyr Asp Gly Glu Ala Phe	Tyr Asn Leu Gly Leu	
530	535	540
Ala Leu Lys Phe Gln Gly Lys Asp Asp Glu Ala	Tyr Asp Ser Phe Tyr	
545	550	555
Lys Ser Cys Trp Asn Ala Ala Trp Gln Asp Ala	Gly Tyr Tyr Ser Leu	
565	570	575
Ala Gln Ile Ser Val Ser Arg Ser Asn Trp Glu Glu	Ala Leu Glu Glu	
580	585	590
Ile Glu Lys Ser Leu Leu His Asn Trp His Asn Leu	Arg Gly Arg His	
595	600	605
Leu Lys Ala Ile Ile Leu Arg His Leu Glu Gln Lys	Glu Glu Ala Leu	
610	615	620
Ala Trp Ile Glu Asp Ser Leu Lys Thr Asp Ala	Phe Asn Phe Gly Cys	
625	630	635
Leu Phe Glu Lys Tyr Leu Ile Thr Arg Asp Glu	Thr Val Leu Ile Gln	
645	650	655
Leu Arg Asn Leu Met Lys Arg Gly Ala Pro Asp	Tyr Glu Ala Leu Val	
660	665	670
Leu Asp Tyr Thr Ser Ala Gly Arg Phe Glu Glu	Ala Leu Ala Val Ala	
675	680	685
Glu Leu Ala Ile Ala Gln Pro Ala Gly Glu Gln	Thr Leu Leu His Tyr	
690	695	700
Tyr Lys Ser Trp Cys Leu Ile Arg Leu Gly Lys	Thr Ala Glu Ala Gln	
705	710	715
Ile Ala Ile Ala Thr Ala Glu Lys Glu Pro Ala	Asp Tyr Cys Phe Pro	
725	730	735
Asn Ala Leu Glu Ala Ile Glu Ala Leu Gln Cys	Val Val Asp Phe Ala	
740	745	750
Gly Lys Ala Pro Lys Ala Leu Tyr Tyr Leu Gly	Asn Leu Trp Tyr Asp	
755	760	765
Lys Arg Arg Tyr Pro Thr Ala Ile Ala Ala Trp	Glu Arg Ser Ser Arg	
770	775	780
Glu Asp Glu Thr Phe Pro Thr Val Trp Arg Asn	Leu Ser Leu Ala Tyr	
785	790	795
		800

Phe Asn Lys Met Asn Arg Pro Asp Ala Ala Val Ala Leu Leu Glu Lys
 805 810 815
 Ala Phe Arg Leu Asp His Thr Asp Ala Arg Val Leu Met Glu Leu Asp
 820 825 830
 Gln Leu Tyr Lys Arg Leu Asn Arg Pro His Ile Glu Arg Leu Cys Phe
 835 840 845
 Leu Glu Gln His Ile Asp Ile Val Met Thr Arg Asp Asp Leu Tyr Leu
 850 855 860
 Glu Tyr Val Thr Leu Leu Asn Gln Thr Gly Gln Tyr Arg Glu Ala Ile
 865 870 875 880
 Arg Arg Ile Asp Gln Arg Lys Phe His Pro Trp Glu Gly Gly Glu Gly
 885 890 895
 Lys Val Pro Ala Gln Tyr Gln Leu Ala Arg Leu Glu Leu Ala Lys Glu
 900 905 910
 Leu Ile Asn Arg Lys Lys Tyr Asp Asp Ala Leu Ala Leu Ile Asp Glu
 915 920 925
 Cys Tyr Ile Tyr Pro Ala His Leu Gly Glu Gly Lys Leu Pro Gly Ala
 930 935 940
 Gln Glu Asn Asp Phe Asn Tyr Tyr Lys Ala Tyr Ile Leu Gln Gln Gln
 945 950 955 960
 Gly Arg Pro Glu Glu Ala His Ser Leu Phe Val Lys Ala Cys Ser Gly
 965 970 975
 Asn Ser Gln Pro Ala Ala Ala Met Tyr Tyr Asn Asp Gln Lys Pro Asp
 980 985 990
 Lys Ile Phe Tyr Gln Gly Leu Ala Tyr Arg Lys Leu Gly Glu Glu Glu
 995 1000 1005
 Lys Ala Arg Ser Arg Phe Asn Gln Leu Ile Thr Tyr Gly Glu Glu His
 1010 1015 1020
 Leu Phe Asp Arg Phe Lys Met Asp Tyr Phe Ala Val Ser Leu Pro Asp
 1025 1030 1035 1040
 Leu Leu Ile Trp Glu Asp Asp Met Asp Lys Lys Asn Arg Ile His Cys
 1045 1050 1055
 Asn Tyr Leu Met Ala Leu Gly His Leu Gly Leu Gly Asn Arg Thr Lys
 1060 1065 1070
 Thr Glu His Phe Phe Asp Ile Ala Ala Ser Met Asp Asn Asn His Gln
 1075 1080 1085
 Gly Val Gln Ile His Arg Lys Leu Met Asn Thr Ile Leu Ser
 1090 1095 1100

<210> 9509

<211> 940

<212> PRT

<213> B.fragilis

<400> 9509

Gln Ser Ser Arg Ser Thr Asn Ser Pro Glu Ile Asn Glu Tyr His Ser
 1 5 10 15
 Ile Met Lys Gln Ser Phe Gln Asn Thr Arg Tyr Arg Ala Ile Leu Leu
 20 25 30
 Leu Thr Gly Leu Met Leu Ala Met Thr Ala Met Ala Gln Thr Leu Thr
 35 40 45
 Asn Asp Ala Leu Asp Leu Ser Gly Met Trp Arg Phe Gln Leu Asp Pro
 50 55 60
 Met Gly Phe Gly Lys Thr Pro Gly Ser Glu Leu Tyr Leu Asp Lys Leu
 65 70 75 80
 Ser Glu Thr Ile Met Leu Pro Gly Ser Thr Asp Gln Gly Gly Lys Gly
 85 90 95
 Ile Lys Asn Thr Ala Arg Tyr Val Asp Arg Leu Ser Arg Lys Phe Glu
 100 105 110

Tyr Gln Gly Ala Ala Trp Tyr Gln Arg Glu Val Val Ile Pro Glu Asp
 115 120 125
 Trp Ala Asp Arg Glu Ile Tyr Leu Lys Leu Glu Arg Cys His Trp Glu
 130 135 140
 Thr Thr Val Tyr Val Asp Asp Lys Glu Ala Gly Met Lys Glu His Leu
 145 150 155 160
 Ser Thr Pro Asn Thr Phe Val Leu Thr Pro Leu Leu Thr Pro Gly Ile
 165 170 175
 His Thr Leu Thr Ile Cys Val Asn Asn Thr Leu Lys Tyr Pro Met Asp
 180 185 190
 Gln Trp Asn His Gly Thr Thr Glu Tyr Thr Gln Thr Asn Trp Asn Gly
 195 200 205
 Ile Ala Gly Asp Ile Leu Leu Tyr Ala Lys Glu Lys Ala His Ile Arg
 210 215 220
 Gln Ile Asn Val Tyr Pro Asp Val Ser Ser Lys Ala Val Glu Val Ser
 225 230 235 240
 Val Gln Pro Ala Pro Leu Lys Thr Gly Gln Thr Gly Lys Leu Glu Leu
 245 250 255
 Cys Ile Arg Glu Gln Gly Gly Lys Ile Ile Ala Arg Gln Thr Leu Asn
 260 265 270
 Ala Asp Ser Leu Gln Val His Ala Gly Ile Arg Gln Thr Leu Pro Met
 275 280 285
 Gly Asn Arg Val Lys Leu Trp Asp Glu Phe Thr Pro Tyr Leu Tyr Glu
 290 295 300
 Ile Glu Ala Ser Trp Asn Val Asp Gly Lys Thr Asp Thr Gln Thr Arg
 305 310 315 320
 Thr Phe Gly Met Arg Asn Val Glu Gln Gly Lys His His Ile Arg Leu
 325 330 335
 Asn Gly Arg Asp Ile His Leu Arg Gly Val Leu Asp Cys Ala Val Phe
 340 345 350
 Pro Leu Thr Gly Tyr Pro Ser Thr Asn Val Asp Asp Trp Lys Arg Ile
 355 360 365
 Phe Thr Thr Ile Lys Glu Tyr Gly Met Asn His Val Arg Phe His Ser
 370 375 380
 Trp Cys Ser Pro Glu Ala Ala Phe Glu Ala Gly Asp Glu Val Gly Met
 385 390 395 400
 Tyr Leu Gln Ala Glu Leu Pro Met Trp Ile Lys Asp Val Gly Lys Tyr
 405 410 415
 Pro Asp Arg Arg Asp Phe Phe Glu Lys Glu Met Tyr Ala Ile Leu Asp
 420 425 430
 Ala Tyr Gly Asn His Pro Ser Phe Ile Leu Met Cys Asn Gly Asn Glu
 435 440 445
 Asn Glu Gly Asp Phe Ala Val Leu Glu Asp Leu Val Lys Lys Ala Gln
 450 455 460
 Lys Tyr Asp Asn Arg Arg Leu Tyr Ser Ala Ser Thr Ala Arg Thr His
 465 470 475 480
 Thr Pro Ser Asp Gln Tyr Tyr Val Ser His Val Thr Ser Lys Gly Trp
 485 490 495
 Ile Thr Val Tyr Glu Gly Lys Pro Ser Thr Asp Trp Asp Arg Cys Lys
 500 505 510
 Glu Ser Asp Ile Asp Val Pro Val Ile Ala His Glu Thr Gly Gln Arg
 515 520 525
 Cys Met Tyr Pro Asn Phe Glu Glu Met Lys Lys Tyr Thr Gly Val Val
 530 535 540
 Glu Ala Arg Asn Phe Glu Val Phe Arg Glu Arg Leu Ala Lys Asn Gly
 545 550 555 560
 Met Leu His Gln Ala Asn Asp Phe Phe Arg Ala Thr Gly Ala His Thr
 565 570 575
 Val Leu Gln Tyr Lys Glu Val Asn Glu Ser Leu Leu Arg Thr Arg Asn

580	585	590
Ser Gly Gly Phe Gln Leu Leu Gly Leu Ala Asp Phe Pro	Gly Gln Gly	
595	600	605
Ser Ala Phe Val Gly Ile Leu Asp Ala Phe Trp	Glu Ser Lys Gly Leu	
610	615	620
Val Thr Pro Glu Lys Phe Arg Glu Ser Cys Ala Pro	Thr Val Leu Leu	
625	630	640
Ala Arg Leu Pro Lys Arg Thr Phe Arg Asn Gly Glu	Lys Leu Lys Ala	
645	650	655
Lys Met Glu Ile Tyr His Phe Gly Lys Asp Ala Leu Asn	Ser Arg Lys	
660	665	670
Leu Asn Trp Thr Leu Thr Gly Glu Asp Gly Thr Val	Tyr His Lys Gly	
675	680	685
Ser Leu Lys Thr Lys Ser Ile Gln Pro Ala Thr Val	Asp Ser Leu Gly	
690	695	700
Ile Ile Glu Leu Pro Leu Asn Gly Met Asp Ser Ala Leu	Lys Leu Thr	
705	710	720
Leu Lys Ala Glu Leu Gly Gly Ile His Asn Glu Trp Asp	Val Trp Val	
725	730	735
Tyr Pro Glu Gln Pro Lys Thr Glu Gln Tyr Asn Phe Val	Tyr Thr Arg	
740	745	750
Thr Trp Asn Asp Glu Thr Lys Gln Trp Leu Asn Glu	Gly Lys Asn Val	
755	760	765
Leu Leu Ile Pro Glu Lys Cys Lys Gly Arg Lys Ala His	Phe Ala Ser	
770	775	780
His Phe Trp Asn Pro Ile Met Phe Asn Trp Asn Pro Met	Ile Val Gly	
785	790	800
Thr Leu Ile Asp Asn Glu His Pro Ala Phe Arg Asp Phe	Pro Thr Arg	
805	810	815
Asn Tyr Ala Asp Trp Gln Trp Trp Asp Ile Leu Asn	Tyr Ser Thr Ala	
820	825	830
Leu Glu Leu Asp Glu Leu Lys Glu Ile Thr Pro Leu	Ile Gln Ser Ile	
835	840	845
Asp Ser Tyr Glu Thr Asn Gln Lys Leu Gly Ile Ser	Phe Glu Ala Lys	
850	855	860
Val Gly Lys Gly Lys Leu Phe Val Leu Cys Ala Asp	Pro Glu Lys Lys	
865	870	880
Ile Asp Glu Arg Pro Ala Met Gln Gln Leu Leu Thr	Ser Val Arg Asn	
885	890	895
Tyr Val Ser Ser Gly His Phe Asn Pro Thr Lys Ser	Leu Pro Val Tyr	
900	905	910
Leu Leu Asp Ala Leu Phe Ala Pro Ala Ser Glu Glu	Lys Ser Gly Asp	
915	920	925
Lys Gly Ser Lys Ala Ile Glu Leu Leu Leu Asn Lys		
930	935	940

<210> 9510

<211> 224

<212> PRT

<213> B.fragilis

<400> 9510

Lys Lys Tyr Ala Val Arg Leu Leu Leu Gln Lys Lys Asn	Tyr Phe		
1	5	10	15
Cys Glu Leu Phe Ile Leu Lys Ile His Arg Met Ser	Thr His Gly Ser		
20	25	30	
Leu Ser Glu Val Glu Arg Phe Asn Leu Leu Tyr Lys Ser	Ser Phe Asn		
35	40	45	
Lys Val Cys Asn Phe Ala Cys Phe Tyr Val Arg Asn	Lys Gln Ala Ser		

50	55	60													
Glu	Asp	Ile	Thr	Met	Asp	Ala	Phe	Leu	Gln	Leu	Leu	Glu	Thr	Met	Lys
65					70				75						80
Val	Glu	Ser	Val	Asp	Asn	Pro	Met	Ala	Leu	Leu	Ile	Thr	Ile	Val	Lys
					85				90						95
His	Lys	Ser	Leu	Asp	Tyr	Leu	Lys	Thr	Gln	Val	Arg	Arg	Glu	Asp	Thr
					100				105						110
Lys	Asp	Asp	Leu	Ile	Gln	Trp	Lys	Gln	Arg	Glu	Leu	Ala	Ile	Arg	Ile
					115				120						125
Ser	Asn	Leu	Glu	Gly	Cys	Asn	Pro	Ser	Tyr	Ile	Phe	Ser	Gln	Glu	Ile
					130				135						140
Lys	Ser	Ile	Val	Met	Lys	Thr	Leu	Asn	Gln	Leu	Pro	Glu	Gln	Thr	Lys
145					150				155						160
Lys	Val	Phe	Ile	Met	Ser	Arg	Phe	Glu	Asn	Lys	Ser	Gly	Lys	Glu	Ile
					165				170						175
Ala	Gln	Thr	Leu	Gly	Ile	Ser	Val	Lys	Gly	Val	Asp	Tyr	His	Met	Asn
					180				185						190
Lys	Ala	Leu	Lys	Glu	Leu	Arg	Ala	Ala	Leu	Lys	Asp	Tyr	Leu	Pro	Ile
					195				200						205
Leu	Thr	Trp	Leu	Cys	Phe	Met	Asn	Pro	Ile	Asn	Lys	Val	Trp	Ile	Ser
					210				215						220

<210> 9511

<211> 439

<212> PRT

<213> B.fragilis

<400> 9511

Lys	Leu	Thr	Ala	Met	Pro	Thr	Ile	Leu	Glu	Arg	Leu	Thr	Ala	Leu	Phe
1							5		10						15
Ser	Arg	Asp	Met	Arg	Ala	Val	Leu	Arg	Asn	Pro	Arg	Ala	Ile	Ser	Met
							20		25						30
Ile	Glu	Asn	Pro	Ser	Ile	Arg	Val	Gln	Met	Ala	Ala	Ile	Arg	Arg	Asp
							35		40						45
Lys	Ser	Val	Ile	Cys	Phe	Ile	Asp	Lys	Pro	Val	Glu	Lys	Val	Gln	Leu
							50		55						60
Ala	Ala	Val	Gly	Asn	Ala	Pro	His	Asn	Ile	His	Phe	Ile	Ala	Ser	Pro
65							70			75					80
Gly	Glu	Lys	Val	Gln	Leu	Ser	Val	Ile	Arg	His	Lys	Pro	Gly	Tyr	Ile
							85		90						95
Gly	Phe	Ile	Ser	Asn	Pro	Thr	Glu	Lys	Ala	Gln	Leu	Thr	Ala	Val	Glu
							100		105						110
Arg	Arg	Pro	Glu	Cys	Ile	Ser	Leu	Ile	Ser	Lys	Pro	Ala	Val	Lys	Val
							115		120						125
Gln	Leu	Met	Ala	Val	Leu	Lys	Asp	Pro	Ala	His	Ile	Ala	Ser	Ile	Lys
							130		135						140
Glu	Pro	Ala	Glu	Lys	Val	Gln	Leu	Ala	Ala	Val	Gln	Lys	Asn	Pro	Glu
145							145		150						160
Tyr	Ile	Arg	His	Ile	Glu	Ser	Pro	Thr	Val	Lys	Val	Gln	His	Met	Ala
							165		170						175
Ile	Gln	Gly	Asn	Ala	Asp	Thr	Leu	Arg	His	Ile	Lys	Ser	Pro	Ala	Asp
							180		185						190
Thr	Val	Gln	Leu	Ala	Ala	Val	Gln	Ala	Lys	Gly	Glu	Thr	Ile	Arg	Tyr
							195		200						205
Val	Ser	Glu	Pro	Ser	Glu	Ala	Val	Gln	Leu	Ala	Ala	Val	Arg	Asn	Asn
							210		215						220
Pro	Met	Asn	Ile	Arg	Tyr	Ile	Glu	Asn	Pro	Thr	Glu	Lys	Val	Gln	Leu
225							225		230						240
Ser	Val	Leu	His	Ala	Asp	Arg	Glu	Ala	Ala	Leu	Ile	His	Phe	Pro	

245	250	255
Ser Asp Glu Val Arg Lys Gln Ala Glu	Glu Met Tyr Gly Leu Lys Leu	
260	265	270
Glu Lys Pro Ala Asp Arg Glu Ala Glu	Pro Ser Ser Glu Ala Pro Glu	
275	280	285
Ser Ser Ala Thr Arg Arg Thr Pro Arg	Lys Lys Thr Glu Gln Ser Thr	
290	295	300
Gln Ser Thr Arg Lys Pro Ser Ala Arg	Gln Val Lys Thr Ala Ile Thr	
305	310	315
Lys Leu Asp Lys Glu Ile Arg Glu Ile	Arg Glu Leu Pro Gln Gly Lys	
325	330	335
Asp Arg Glu Gln Arg Leu Ile Lys Ala	Phe Glu Glu Phe Asn Ser Ser	
340	345	350
Ala Val Pro Glu Lys Lys Gly Cys Asp	Val Glu Ser Ile Leu Lys Asp	
355	360	365
Leu Arg Gly Lys Gly Val Lys Val Glu	Ala Met Lys Ala Glu Glu Trp	
370	375	380
His Ser Leu Met Asn Gly Lys Ala Ile	Gln Pro Ser Leu Ile Ser Gly	
385	390	395
Ala Ser Lys Pro Ala Ala Lys Gly Ala	Ser Phe Met Leu Thr Lys Thr	
405	410	415
Pro Val Gly Tyr Ala Val Lys Ala Val	Asn Thr Val Asn Ser Leu Thr	
420	425	430
Arg Gln Ala Ser Ala Asp Met		
435		

<210> 9512
<211> 1227
<212> PRT
<213> B.fragilis

<400> 9512		
Val Asn Lys Tyr Phe Ser Leu Met Thr Asn Gln Val Thr Tyr Leu Phe		
1	5	10
Phe His Gly Met Lys Gln Ile Ser Glu Asn Leu Phe Thr Thr Glu Glu		
20	25	30
Gln Ala Ile Ile Ala Arg Ser Lys Ala Glu Gly Ser Tyr Met Lys Ala		
35	40	45
Pro Asn Gly Gln Ala Thr Asn Leu Asn Glu Lys Gln Trp Ala Gln Val		
50	55	60
Arg Thr Arg Ala Phe Arg Glu Trp Phe Gly Asp Trp Glu Asn Asn Pro		
65	70	75
Asn Glu Ala Ser Lys Val Arg Asp Ala Asn Gly Glu Pro Leu Val Val		
85	90	95
Tyr His Gly Thr Pro Ile Ser Arg Asp Gln Ala Ala Asp Arg Ser Lys		
100	105	110
Phe Arg Ile Ala Asp Asp Trp Glu Ile Gln Thr Ile Asn Ala Pro Phe		
115	120	125
His Thr Phe Arg Gly Gly Ala Tyr Asn Gly Leu Ile Phe Thr Ser Leu		
130	135	140
Thr Glu Glu Lys Ala Arg Ser Ile Gly Glu Thr Arg Ser Met Ser Ile		
145	150	155
Pro Asp Ser Glu Asp Gly Arg Glu Gln Trp Thr Thr Asp Ser Tyr Val		
165	170	175
Tyr Asp Leu Phe Val Asn Ala Gly Lys Pro Phe Asp Val Lys Asn Pro		
180	185	190
Asn Ala Val Lys Asp Val Leu Asp Ala Leu Lys Gly Gln Leu Thr Ala		
195	200	205
Tyr Asp Phe Tyr Leu Gly Met Glu Val Pro Val Ser Arg Glu Glu Ala		

210	215	220
Glu Lys Ile Leu Glu	Gly Gly Asn Ser Trp Arg	Val Val Glu Thr Pro
225	230	235
Ser Met Gln Glu Ile Ile Arg Ser Arg	Gly Tyr Asp Ala Ile His Ala	240
245	250	255
Leu Asp Glu Gly Val Gln Tyr Met Ala Val Phe Ala Pro Asn Gln Leu		
260	265	270
Lys Ala Ser Gly Lys Tyr Leu Tyr Ser Glu Arg Asn Thr	Gly Val Phe	
275	280	285
Ser Pro Gly Asn Asn Asp Ile Arg Phe Arg Glu Val His His Gly Ala		
290	295	300
Pro Ala Ser Phe Thr Gly Tyr Arg Ser Met Lys Thr Glu Thr Val Arg		
305	310	315
Asp Asp Asn Ile Pro Ala Val Leu Ala Ala Leu Arg Asp Lys Leu Glu		320
325	330	335
Asp Thr Glu Gln Glu Trp Gln Asp Arg Ile Leu Asp Tyr Ile Ala Glu		
340	345	350
Asn Tyr Pro Thr Gln Ala Thr Val Ser Ala Gln Thr Arg Ser Pro Glu		
355	360	365
Gly Leu Lys Glu Arg Glu Ala Met Lys Lys Asp Lys Thr Leu Met Lys		
370	375	380
Met Lys Glu Glu Ala Val Ala Ala Leu Asn Ala Ala Asp Glu Lys Val		
385	390	395
Met Glu Ala Phe Lys Lys Glu Asn Gly Asp Ile Leu Phe Arg Glu Val		400
405	410	415
Lys Gly Lys Asp Gly Gly Lys Ser Leu Val Gly Leu His Asn Ile Thr		
420	425	430
Glu Glu Lys Leu Leu Lys Ala Leu Lys Leu Gly Gly Leu Ala Asn Pro		
435	440	445
Ser Ala Ala Val Ile Asp Ile Ala Arg Gln Ser His Glu Gly Tyr Gly		
450	455	460
Glu Ile Ser Leu Ile Leu Pro Ser Ser Met Ile Asp Lys Arg Thr Gly		
465	470	475
Arg Asn Ala Gly Thr Phe Ser Gly Asp Ala Trp Thr Pro Val Tyr Pro		480
485	490	495
Gln Ile Glu Arg Gln Phe Ser Gly Asp Gly Ser Gly Arg Val Arg Asp		
500	505	510
Ala Ile Ser Arg Leu Pro Gln Glu Met Lys Pro Asn Val Arg Ser Thr		
515	520	525
Trp Asn Ser Tyr Met Asp Gly Arg Asp Glu Gly Ser Ala Phe Ala Tyr		
530	535	540
Gln Phe Leu Tyr Glu Arg Gly Glu Ala Pro Glu Phe Arg Lys Val Glu		
545	550	555
Pro Leu Phe Gly Glu His Leu Arg Asn Arg Ile Ser Ala Ile Asp Ala		560
565	570	575
Leu Asp Asp Tyr Asp Glu Arg Asn Thr Ala Leu Leu Glu Val Tyr Ile		
580	585	590
Glu Glu Asn Phe Gly Asp Gln Thr Lys Phe Lys Asp Tyr Ile Glu		
595	600	605
Thr Arg Lys Arg Val Leu Gln Asp Lys Ile Gln Ala Phe Pro Glu Gln		
610	615	620
Lys Gln Lys Gly Leu Ala Tyr Arg Lys Ala Val Gln Lys Leu Asn Asp		
625	630	635
Ile Glu Glu Arg Gly Tyr Glu Tyr Ser Ser Val Gln Asp Phe Tyr Asp		640
645	650	655
Arg Val Lys Ala Asp Ile Arg Gln Ala Gly Ser Val Asp Thr Tyr His		
660	665	670
Thr Leu Gln Asp Ala Leu Asp Lys Ile Asp Gly Ser Glu Ala Leu Ser		
675	680	685

Arg Gln Tyr Ala Glu Trp Lys Glu Ser Leu Ala Asp Lys Tyr Gly Ile
 690 695 700
 Lys Glu Val Leu Phe Lys Gly Tyr Thr Pro Asp Gly Ile Arg Ile Tyr
 705 710 715 720
 Leu Pro His Thr Leu Glu Asn Val Ser Gly Leu Met Lys Arg Gln Gly
 725 730 735
 Leu Ala Ala Ala Thr Gly Trp Gly Gly Ser Phe Ser Glu Phe Ala Ala
 740 745 750
 Ala Leu Met Lys Pro Val Gly Thr Leu Asp Gly Ile Arg Arg Gln Lys
 755 760 765
 Gly Arg Leu Thr Thr Asp His Ser Asp Leu Glu Ala Phe Arg Asp Lys
 770 775 780
 Trp Gln Glu Val Tyr Phe Asn Leu Gly Ile Lys Leu Asn Pro Gly Gly
 785 790 795 800
 Gly Thr Phe Asp Asp Thr Gly Leu Tyr Arg Val Gly Asp Ile Ala Leu
 805 810 815
 Lys Pro Asp Pro Gly Ser Phe Ala Lys Arg Glu Tyr Gly Val Glu Leu
 820 825 830
 Thr Gly Glu Asp Val Arg Gln Leu Lys Glu Met Val Asp Ala Ile Gln
 835 840 845
 Asn Glu Tyr Pro Ala Met Tyr Phe Glu Thr Lys Phe Glu Arg Pro Val
 850 855 860
 Tyr Leu Asn Glu Phe Val Ala Ala Val Val Pro Glu Asn Val Ser Glu
 865 870 875 880
 Asp Val Ser Lys Ala Val Arg Glu Ser Gly Leu Gln Val Phe Val Tyr
 885 890 895
 Lys Pro Lys Asp Glu Ser Ser Arg Asn Glu Ala Val Lys Leu Ala Ser
 900 905 910
 Glu Ile Lys Gly Val Arg Phe Arg Leu Ala Gly Gly Thr Gly Ala Phe
 915 920 925
 Thr Pro Ala Cys Thr Ala Ser Gly Gln Val Phe Leu Ser Asp Glu Arg
 930 935 940
 Met Ala Glu Leu Ser Arg His Ala Val Phe Leu Ala Arg Lys Gln His
 945 950 955 960
 Ile Pro Val Asn Ile Ile His Ser Ile Gly Glu Val Asp Ser Pro Lys
 965 970 975
 Val Arg Ala Leu Ile Ala Gly Gly Lys Asp Ile Arg Gly Trp Tyr Asp
 980 985 990
 Ile Pro Ser Asp Arg Ile Cys Leu Tyr Leu Pro Lys Ala Arg Gly Lys
 995 1000 1005
 Glu Asp Ile Glu Arg Thr Leu Leu His Glu Gly Val Gly His Tyr Gly
 1010 1015 1020
 Leu Arg Arg Leu Ala Gly Trp Lys His Met Asp Ala Phe Leu Asp Asp
 1025 1030 1035 1040
 Ile Phe Ala Gly Cys Gly Glu Lys Val Arg Gly Glu Ile Ile Arg Leu
 1045 1050 1055
 Ala Gly Thr Gly Lys Met Asp Ile Arg Thr Ala Thr Glu Glu Tyr Leu
 1060 1065 1070
 Ala Gln Met Ala Glu Ser Gly Thr Asp Ala Arg Val Trp Asp Lys Ile
 1075 1080 1085
 Arg Leu Ala Phe Arg Asn Leu Leu Arg Lys Leu Gly Phe Ser Ile Glu
 1090 1095 1100
 Val Asp Asp Arg Glu Leu Lys Gly Leu Leu Ala Ala Ser Arg Glu Asn
 1105 1110 1115 1120
 Leu Lys Arg Thr Ala Ala Thr Arg Ile Pro Glu Lys Ile Gln Thr Pro
 1125 1130 1135
 Lys Gly Glu Leu Glu Leu Thr Pro Gly Tyr Ala Ala Gly Ser Leu Arg
 1140 1145 1150
 Ser Lys Asp Gly Val Arg Asp Val Thr Pro Phe Leu Lys Glu Met Lys

1155	1160	1165
Arg Ala Gly Leu Lys Pro Ala Ser Leu Ser Pro Glu Glu Trp Lys Ser		
1170	1175	1180
Leu Phe Ser Gly Lys Gly Ile Ala Leu Pro Asp Gly Arg Met Leu Met		
1185	1190	1195
Ala Val Lys Glu Pro Ala Gly Tyr Gly Leu Lys Ile Thr Ala Pro Ala		1200
1205	1210	1215
Leu Arg Ser Ile Lys Thr Ala Glu Met Glu Ile		
1220	1225	

<210> 9513

<211> 814

<212> PRT

<213> B.fragilis

<400> 9513

Ile Met Asp Phe Asn Ser Tyr Lys Lys Val Ile Ser Asn Cys Asn His		
1	5	10
Ile Val Lys Val Gly Met Val Ser Ala Tyr Ala Leu Phe Leu Gly Val		
20	25	30
Asn Thr Ala Leu Ala Ser Val Thr Glu Tyr Met Asp Gln Lys Val Ser		
35	40	45
Leu Lys Thr Gln Asn Tyr Thr Ile Glu Ser Val Ile Gln Gln Val Glu		
50	55	60
Lys Gln Thr Asp Tyr Leu Phe Val Tyr Asp Lys Asn Asp Val Asp Val		
65	70	75
80		
Lys Arg Thr Val Tyr Val Asn Gly Ser Asn Thr Asp Val Ile Glu Leu		
85	90	95
Leu Lys Gly Ile Phe Asp Asn Thr Asp Ile Asp Cys Lys Val Leu Gly		
100	105	110
Asn Asn Ile Thr Leu Ser Lys Ile Thr Asn Val Ala Thr Arg Ile Ala		
115	120	125
Gln Gln Asp Lys Lys Thr Ala Lys Gly Asn Val Ile Asp Ser Thr Gly		
130	135	140
Glu Pro Val Ile Gly Ala Ser Val Val Glu Gln Gly Thr Thr Asn Gly		
145	150	155
160		
Thr Val Thr Asp Ile Asn Gly Asn Phe Thr Leu Asn Leu Ser Thr Pro		
165	170	175
Asn Ala Lys Ile Glu Ile Ser Phe Ile Gly Tyr Lys Thr Gln Val Leu		
180	185	190
Thr Ala Gln Phe Gly Lys Gln Met Ala Val Lys Leu Val Asp Asp Thr		
195	200	205
Glu Leu Leu Asp Glu Val Val Val Gly Tyr Gly Ser Gln Lys Lys		
210	215	220
Val Asn Met Thr Gly Ala Val Ala Thr Ile Asp Ser Lys Ser Leu Ala		
225	230	235
240		
Ser Arg Pro Ile Ser Asn Ile Ser Gln Gly Leu Gln Gly Leu Ala Pro		
245	250	255
Gly Val Thr Val Thr Asn Ala Gly Gly Gln Pro Gly Gln Asp Thr Gly		
260	265	270
Lys Ile Leu Ile Arg Gly Leu Gly Ser Phe Asn Ala Ser Ser Pro Met		
275	280	285
Val Leu Ile Asp Gly Val Glu Gly Asp Met Asn Val Val Asp Pro Ser		
290	295	300
Asp Ile Glu Ser Ile Ser Val Leu Lys Asp Ala Ser Ser Ala Ala Ile		
305	310	315
320		
Tyr Gly Ser Lys Ala Ala Asn Gly Val Ile Leu Ile Thr Thr Lys Arg		
325	330	335
Gly Gln Ser Gly Lys Pro Lys Leu Thr Tyr Ser Ala Leu Phe Gly Trp		

340	345	350
Ser Lys Pro Ala Asp Leu Met Asp Arg Thr Asn Ser Ala Glu Leu Ala		
355	360	365
Glu Leu Thr Asn Glu Ala Glu Tyr Trp Asp Ala Ile Ser Gln Gly Ala		
370	375	380
Ser Pro Glu Gln Ala Glu Lys Arg Lys Pro Tyr Thr Gln Glu Asp Ile		
385	390	395
Arg Lys Tyr Ala Glu Gly Ser Asp Pro Tyr Gly His Pro Asn Thr Asp		
405	410	415
Trp Tyr Asp Leu Phe Tyr Thr Gly Ser Gly Phe Met Asn Arg His Asn		
420	425	430
Ile Gly Met Asp Gly Gly Ser Glu Trp Ala Lys Tyr Arg Ala Ser Leu		
435	440	445
Gly Tyr Val Lys Gln Glu Gly Ile Val Glu Asn Ala Ser Asn Arg Gln		
450	455	460
Phe Asn Val Arg Thr Asn Leu Asp Leu Lys Leu Thr Glu Arg Leu Lys		
465	470	475
Ser Arg Ile Asn Leu Asp Phe Ala Asn Thr Leu Met Lys Glu Pro Thr		
485	490	495
Asp Pro Ile Ser Trp Ser Asn Gly Ala Ala Tyr Gln Val Phe Arg Gln		
500	505	510
Val Asn Arg Ile Ser Pro Met Val Pro Tyr Lys Asn Glu Asp Gly Thr		
515	520	525
Tyr Gly Thr Ile Ala Asp Gly Asn Pro Ile Ala Phe Gln Asp Leu Gly		
530	535	540
Ser Thr Gly Asp Thr Asp Lys Asp Tyr Leu Asn Ala Phe Ala Glu Phe		
545	550	555
Ser Tyr Asp Ile Trp Asp Gly Leu Lys Ile Thr Ala Asn Gly Ser Tyr		
565	570	575
Asn Val Val Asn Lys Ser Tyr Lys Leu Tyr Arg Lys Asp Leu Gln Tyr		
580	585	590
Asn Ala Asn Lys Tyr Asp Gly Pro Ile Arg Leu Thr Lys Ser His Thr		
595	600	605
Lys Glu Ile Arg Arg Gln Gly Asp Ile Leu Leu Asn Tyr Asp Lys Thr		
610	615	620
Phe Ala Gln Lys His Thr Val Asn Thr Leu Ala Gly Phe His Thr Glu		
625	630	635
Leu Tyr Ser Tyr Glu Tyr Asp Asp Ala Tyr Arg Gln Asn Phe Pro Ser		
645	650	655
Ser Asp Val Thr Asp Met Asn Gly Gly Ser Glu Gln Val Leu Ser Pro		
660	665	670
Val Gly Gln Leu Cys Asn Lys Thr Val Leu Pro Pro Ala His Lys Cys		
675	680	685
Thr Pro Thr Val Cys Pro Pro Phe Leu Lys Lys Glu Thr Thr Val Ala		
690	695	700
Asp Gly Val Gly Leu Pro Arg Arg Arg Gln Trp Glu Arg Asn Asn Pro		
705	710	715
His Pro Trp Arg Glu Ala Gly Ala Ser Lys Arg Ala Tyr Ala Ala		
725	730	735
Arg Leu Gly Glu Thr Arg Met Lys Arg Ala Lys Pro Gly Ser His Pro		
740	745	750
Thr Leu Lys Ser His Phe Pro Pro Met Ala Arg Asp Arg Pro Trp Gly		
755	760	765
Gly Arg Ser Thr Asp Pro Lys Gln His Phe Glu Leu Ile Gln Ile Ser		
770	775	780
Val Leu Arg Gly Arg Gln Ser Thr Cys Asp Ser Gly Gly Val Asp Pro		
785	790	795
Ala Gly Asp Val Asp Gly Glu Gln Glu Arg Cys Met Arg Leu		
805	810	800

<210> 9514
<211> 140
<212> PRT
<213> B.fragilis

<400> 9514

Pro	Gln	Thr	Asn	His	Val	Met	Leu	Asn	Glu	Asn	Asn	Arg	Ser	Ser	Asp
1					5				10						15
Arg	Ile	Leu	Thr	Glu	Arg	Ile	Leu	Asp	Asp	Pro	Asp	Met	Ile	Leu	Lys
					20				25						30
Ile	Glu	Asn	Pro	Ser	Leu	Lys	Gln	Gln	Met	Ala	Ala	Val	Gln	Lys	Lys
					35				40						45
Pro	Glu	Leu	Ile	Ala	Ser	Leu	Pro	Leu	Ala	Gly	Glu	Lys	Val	Gln	Leu
					50				55						60
Ala	Ala	Val	Ile	Ala	Cys	Pro	Glu	Ser	Ile	Leu	Leu	Val	Asp	Thr	Pro
					65				70						80
Ala	Pro	Ala	Ala	Cys	Phe	Met	Ala	Val	Glu	Arg	Met	Leu	Lys	Glu	Glu
					85				90						95
Leu	Leu	Pro	Val	Pro	Gly	Val	Leu	Asn	Ala	Ala	Arg	Glu	Leu	Ile	Leu
					100				105						110
Gln	Met	Lys	Lys	Asp	Lys	Ala	Asp	Gly	Lys	Ser	Ser	Gly	Ala	Ala	Ile
					115				120						125
Glu	Lys	Phe	Leu	Asp	Glu	Val	Lys	Pro	Ile	Lys	Asn				
					130				135						140

<210> 9515
<211> 84
<212> PRT
<213> B.fragilis

<400> 9515

Lys	Met	Pro	Glu	Pro	Ile	Arg	Pro	Asp	Thr	Lys	Asn	Gly	Lys	Val	Leu
1					5				10						15
Asn	Leu	Leu	Pro	Asn	Val	Ile	Phe	Tyr	Gly	Ile	Phe	Leu	Leu	Phe	Tyr
					20				25						30
Asn	Ser	Arg	Ser	Phe	Phe	Gln	Thr	Val	Val	Asp	Pro	Arg	Leu	Asn	His
					35				40						45
Ile	Leu	Tyr	Lys	Asn	Val	Ile	Tyr	Ile	Val	Ile	Arg	Lys	Asn	Phe	Val
					50				55						60
Arg	Ala	Pro	Asn	Asp	Trp	His	Arg	Asn	Ser	Phe	Asn	Cys	Gln	Pro	Leu
					65				70						80
Asp	Ile	Thr	Glu												

<210> 9516
<211> 320
<212> PRT
<213> B.fragilis

<400> 9516

Arg	Ile	Met	Asp	Asp	Glu	Leu	Leu	Ile	Ala	Tyr	Phe	Lys	Gly	Glu	Val
1					5				10						15
Ser	Asp	Glu	Glu	Thr	Gln	Arg	Ile	Thr	Glu	Trp	Ile	Glu	Ala	Glu	Ile
					20				25						30
Glu	His	Gln	Arg	Tyr	Tyr	Gln	Gln	Leu	Cys	Arg	Leu	Phe	Glu	Met	Ser
					35				40						45
Tyr	Trp	Ile	Glu	Asp	Met	Pro	Glu	Gln	Thr	Glu	Val	Ala	Leu	Pro	Gln
					50				55						60

Lys Ala Lys Ile Leu Pro Trp Lys His Tyr Ala Ile Ser Phe Met Lys
 65 70 75 80
 Val Ala Ala Ile Phe Val Leu Gly Phe Ala Leu His Phe Phe Leu Asn
 85 90 95
 Arg Gln Thr Thr Thr His His Glu Leu Gln His Gln Ile His Val
 100 105 110
 Pro Thr Gly Gln His Val Glu Ile Met Leu Ala Asp Gly Ser Lys Val
 115 120 125
 Trp Leu Asn Ser Gly Ser Thr Leu Thr Phe Pro Ser Lys Phe Asn Gly
 130 135 140
 Lys Lys Arg Leu Val Glu Leu Asp Gly Glu Gly Phe Phe Glu Val Lys
 145 150 155 160
 Ser Asp Lys Glu His Pro Phe Ile Val Ser Thr Ser Lys Tyr Gln Val
 165 170 175
 Lys Ala Val Gly Thr Ser Phe Asn Val Tyr Asp Tyr Gln Asp Ser Pro
 180 185 190
 Gln Phe Glu Ala Ala Leu Leu Asn Gly Lys Val Glu Val Thr Thr Asn
 195 200 205
 Ala Lys Lys Ser Ser Ala Val Ile Leu Thr Pro Asn Gln Arg Ala Ala
 210 215 220
 Leu Cys Gln Gly Val Leu Lys Val Lys Pro Ile Glu Asn Thr Asn Asn
 225 230 235 240
 Tyr Leu Trp Arg Lys Gly Ile Leu Tyr Phe Asn Glu Pro Leu Leu Glu
 245 250 255
 Val Phe Asp Lys Leu Gln Glu Tyr Tyr Asp Val Glu Phe Gln Ile Arg
 260 265 270
 Asn Thr Ser Leu Thr Arg Lys Ser Pro Tyr Cys Thr Gly Lys Phe Arg
 275 280 285
 Ala Lys Asp Gly Leu Glu His Ile Ile Arg Val Leu Lys Glu Thr Asn
 290 295 300
 His Phe Asp Tyr Gln Ile Asp Tyr Glu Asn Lys Lys Ile Ile Ile Leu
 305 310 315 320

<210> 9517

<211> 119

<212> PRT

<213> B.fragilis

<400> 9517

Ile Met Asn Met Asp Lys Asn Asp Ser Phe Asp Gly Pro Leu Gln Glu
 1 5 10 15
 Gly Arg His Thr Thr Leu Arg Ser Phe Ser Trp Gly Asn Arg Glu Phe
 20 25 30
 Thr Ile Ser Ser Asp Lys Ile Ser Leu Tyr Val Gly Gly Ile Pro Tyr
 35 40 45
 Asp Thr Lys Pro Met Leu Asp Ile Leu Arg Gly Ser Gly Val Asp Pro
 50 55 60
 Gly Lys Leu Ser Pro Ala Arg Trp Ile Ser Leu Leu Arg Gly Gln Pro
 65 70 75 80
 Thr Arg Leu Pro Gly Cys Glu Lys Pro Phe Met Leu Val Lys Ala Pro
 85 90 95
 Ser Gly Tyr Thr Leu Lys Cys Pro Gly Asn Asn Pro Gly Ala Gly Thr
 100 105 110
 Arg Leu Phe Gln Pro Glu Met
 115

<210> 9518

<211> 548

<212> PRT

<213> B.fragilis

<400> 9518

Leu Val Asp Thr Met Lys Lys Ala Val Ile Leu Phe Ser Leu Phe Cys
 1 5 10 15
 Phe Leu Cys Ala Ile Pro Val Val Gln Ala Ala Asp Thr Ile Phe Val
 20 25 30
 Arg Glu Thr Arg Ile Pro Ile Leu Ile Glu Arg Gln Asp Asn Val Leu
 35 40 45
 Phe Tyr Leu Arg Leu Asp Ala Lys Glu Ser Gln Thr Leu Asn Asp Val
 50 55 60
 Val Leu Asn Leu Gly Glu Gly Val Asn Leu Ser Glu Ile Gln Ser Ile
 65 70 75 80
 Lys Leu Tyr Tyr Gly Gly Thr Glu Ala Leu Gln Asp Ser Gly Lys Lys
 85 90 95
 Arg Phe Ala Pro Val Gly Tyr Ile Ser Ser Asn Thr Pro Gly Lys Thr
 100 105 110
 Leu Ala Ala Asn Pro Ser Tyr Ser Ile Lys Lys Ser Glu Val Thr Asn
 115 120 125
 Pro Gly Asn Gln Val Val Leu Lys Gly Asp Gln Lys Leu Phe Pro Gly
 130 135 140
 Ile Asn Tyr Phe Trp Ile Ser Leu Gln Met Lys Pro Gly Thr Ser Leu
 145 150 155 160
 Thr Ser Lys Val Thr Ala Asp Ile Ala Ser Ile Thr Leu Asp Gly Lys
 165 170 175
 Lys Ala Leu Leu Asp Val Val Ser Glu Asn Gly Ile Glu His Arg Met
 180 185 190
 Gly Val Gly Val Arg His Ala Gly Asp Asp Asn Ser Ala Ala Phe Arg
 195 200 205
 Ile Pro Gly Leu Val Thr Thr Asn Lys Gly Thr Leu Leu Gly Val Tyr
 210 215 220
 Asp Val Arg Tyr Asn Ser Ser Val Asp Leu Gln Glu His Val Asp Val
 225 230 235 240
 Gly Leu Ser Arg Ser Thr Asp Gly Gly Lys Thr Trp Glu Lys Met Arg
 245 250 255
 Leu Pro Leu Ala Phe Gly Glu Phe Gly Gly Leu Pro Ala Gly Gln Asn
 260 265 270
 Gly Val Gly Asp Pro Ser Ile Leu Val Asp Thr Lys Thr Asn Asn Val
 275 280 285
 Trp Val Val Ala Ala Trp Thr His Gly Met Gly Asn Gln Arg Ala Trp
 290 295 300
 Trp Ser Ser His Pro Gly Met Asp Met Asn His Thr Ala Gln Leu Val
 305 310 315 320
 Leu Ala Lys Ser Thr Asp Asp Gly Lys Thr Trp Ser Ala Pro Ile Asn
 325 330 335
 Ile Thr Glu Gln Val Lys Asp Pro Ser Trp Tyr Phe Leu Leu Gln Gly
 340 345 350
 Pro Gly Arg Gly Ile Thr Met Ser Asp Gly Thr Leu Val Phe Pro Thr
 355 360 365
 Gln Phe Ile Asp Ser Thr Arg Val Pro Asn Ala Gly Ile Met Tyr Ser
 370 375 380
 Lys Asp Gly Gly Lys Asn Trp Lys Met His Asn Tyr Ala Arg Thr Asn
 385 390 395 400
 Thr Thr Glu Ala Gln Val Ala Glu Val Glu Pro Gly Val Leu Met Leu
 405 410 415
 Asn Met Arg Asp Asn Arg Gly Gly Ser Arg Ala Val Ala Ile Thr Lys
 420 425 430
 Asp Leu Gly Lys Thr Trp Thr Glu His Glu Ser Ser Arg Lys Ala Leu
 435 440 445

Pro Glu Ser Val Cys Met Ala Ser Leu Ile Ser Val Lys Ala Lys Asp
 450 455 460
 Asn Val Leu Gly Lys Asp Leu Leu Ile Phe Ser Asn Pro Asn Thr Thr
 465 470 475 480
 Lys Gly Arg Tyr Asn Thr Thr Ile Lys Ile Ser Leu Asp Gly Gly Val
 485 490 495
 Thr Trp Ser Pro Glu His Gln Leu Leu Asp Glu Gly Asn Asn Trp
 500 505 510
 Gly Tyr Ser Cys Leu Ser Met Ile Asp Lys Glu Thr Ile Gly Ile Leu
 515 520 525
 Tyr Glu Ser Ser Val Ala His Met Thr Phe Gln Ala Val Lys Leu Lys
 530 535 540
 Asp Ile Ile Lys
 545

<210> 9519

<211> 532

<212> PRT

<213> B.fragilis

<400> 9519

Leu Tyr Met Thr Asn Thr Asn Ser Ile Met Lys Lys Ile Phe Thr Tyr
 1 5 10 15
 Met Leu Ala Gly Leu Ser Leu Leu Leu Phe Ser Arg Cys Asp Ala Leu
 20 25 30
 Asp Ile Asp Pro Thr Ser Ser Ile Ala Asp Ser Asn Tyr Trp Lys Thr
 35 40 45
 Glu Ala Gln Phe Ser Thr Phe Asn Val Gly Leu His Ala Leu Leu Arg
 50 55 60
 Glu Cys Ser Phe Asn Phe Leu Leu Gly Glu Pro Arg Ala Asp Ile
 65 70 75 80
 Tyr Gly Asp Val Pro Phe Gly Gly Glu Ala Thr Gln Gly Met Glu Arg
 85 90 95
 Leu Pro Phe Asn Thr Ile Asn Lys Glu Asn Thr Gly Ile Ser Asn Phe
 100 105 110
 Ala Gly Met Tyr Lys Val Ile Asn Gln Ile Asn Leu Met Ile Ala Lys
 115 120 125
 Thr Lys Glu Thr Thr Val Leu Ser Glu Ala Gly Lys Asn Tyr Tyr Leu
 130 135 140
 Gly Glu Ala Tyr Gly Met Arg Ala Tyr Leu Tyr Phe His Leu Leu Arg
 145 150 155 160
 Ser Trp Gly Asp Val Ile Leu Tyr Leu Asp Tyr Thr Asn Gly Ala Ser
 165 170 175
 Leu Asp Leu Ser Asn Leu Ser Lys Ala Ala Ser Pro Ala Glu Glu Val
 180 185 190
 Met Lys Gln Ile Lys Glu Asp Ile Thr Ala Ser Glu Lys Gly Phe Gly
 195 200 205
 Ser Asp Tyr Ser Phe Lys Tyr Gly Arg Tyr Tyr Trp Ser Met Ala Ala
 210 215 220
 Thr Gln Met Leu Lys Gly Glu Val Tyr Leu Trp Ser Gly Arg Gln Met
 225 230 235 240
 Gly Gly Gly Thr Ala Asp Tyr Thr Ala Lys Thr Ala Leu Gln Ser
 245 250 255
 Ile Val Ser Asn Ala Asn Val Ser Leu Gln Asp Asp Phe Ser Lys Val
 260 265 270
 Phe Ala Tyr Asn Asn Lys Asp Asn Ser Glu Ile Ile Phe Ser Ile Arg
 275 280 285
 Asn Ala Lys Asp Glu Tyr Asn Met Trp Asp Asp Lys Phe Arg Gln Asn
 290 295 300

Leu Val Pro Gln Gln Ala Tyr Met Thr Ser Thr Tyr Cys Asn Lys Glu
 305 310 315 320
 Gly Val Ser Phe Lys Asp Leu Pro Glu Gly Gln Leu Asn Gly Leu Ile
 325 330 335
 Arg Leu Gln Ile Arg Tyr Asp Leu Tyr Asn Lys Ala Phe Arg Asp Gly
 340 345 350
 Asp Thr Arg Lys Asp Ala Ser Met Thr Ala Val Tyr Gln Lys Gln Gln
 355 360 365
 Asp Gly Thr Val Lys Tyr Ile Ala Pro Phe Cys Asn Lys Tyr Gln Gly
 370 375 380
 Val Leu Leu Asp Gly Ala Ser Gln Arg Ser Phe Leu Asn Asp Tyr Pro
 385 390 395 400
 Ile Tyr Arg Tyr Ala Asp Cys Leu Leu Leu Ala Glu Ala Lys Ala
 405 410 415
 Leu Leu Gly Glu Asp Pro Thr Ala Glu Ile Asn Gln Val Arg Glu Arg
 420 425 430
 Ala Tyr Gly Lys Glu Phe Phe Glu Thr Asn Lys Ala Thr Leu Ala Tyr
 435 440 445
 Pro Asn Asp Lys Gly Asp Phe Tyr Thr Asp Asn Lys Tyr Met Ser Gly
 450 455 460
 Asp Glu Asp Pro Leu Glu Ala Ile Leu Lys Glu Arg Met Arg Glu Phe
 465 470 475 480
 Met Phe Glu Gly Lys Arg Trp Tyr Asp Leu Arg Leu Leu Gly Ala Asp
 485 490 495
 Tyr Val Thr Lys Arg Thr Ser Ala Val Ala Thr Arg Leu Leu Trp Pro
 500 505 510
 Ile Asn Glu Ser Val Leu Thr Asp Asn Pro Ala Leu Lys Gln Thr Pro
 515 520 525
 Gly Tyr Gln Asn
 530

<210> 9520

<211> 93

<212> PRT

<213> B.fragilis

<400> 9520

Asp Arg Arg Ala Ala Val Asp Ala Ile Asn Gly Val Asn Ile Asp Leu
 1 5 10 15
 Ser Pro Pro Ser Met Ala Gly Ala Val Gly Met Arg Glu Trp Pro His
 20 25 30
 Leu Leu Ile Val Leu Ser Val Glu Glu Glu Pro Asp Gly Arg Ser Arg
 35 40 45
 Leu Phe Ala Leu Ala Ala Trp Val His Glu Arg Pro Ser Ala Phe Thr
 50 55 60
 Lys Asp Ala Cys Ala Ala Thr Arg Asp Thr Ala Pro Arg Ala Ala Gly
 65 70 75 80
 Lys Thr Leu His Ser Ala Gln Leu Leu Met Lys Thr Arg
 85 90

<210> 9521

<211> 1083

<212> PRT

<213> B.fragilis

<400> 9521

Asp Cys Thr His Phe Gln Val Phe Ile Phe Met Glu Phe Arg Arg Asp
 1 5 10 15
 Asn Phe Pro Phe Leu Leu Thr Lys Asn Gln Phe Met Lys Lys Val Leu

20	25	30
Phe Ile Leu Leu Gly Cys	Leu Ser Phe Asn Val	Met Ala Gln Val
35	40	45
Lys Ala Ile Ser Gly Leu Val	Thr Asp Val Thr Gly	Glu Pro Val Ile
50	55	60
Gly Ala Ser Val Val Glu Val	Gly Thr Thr Asn Gly	Val Ile Thr Asp
65	70	75
Leu Asn Gly Lys Phe Ser Leu Lys Val	Ala Pro Asn Ser Gln	Phe Leu
85	90	95
Val Ser Tyr Ile Gly Tyr Lys Gln Gln	Thr Ile Lys Val Gly	Ser Glu
100	105	110
Ser Thr Tyr Asn Ile Val Leu Lys	Glu Asp Ala Glu Val	Leu Asp Glu
115	120	125
Val Val Val Gly Tyr Gly Ser Gln Lys Lys Val	Asn Val Thr Gly	
130	135	140
Ala Val Gly Met Val Ser Ala Glu Ala Leu	Glu Ala Arg Pro Val Ala	
145	150	155
Asn Ala Ser Gln Ala Leu Gln Gly Val Val	Pro Gly Leu Asn Leu	Thr
165	170	175
Val Gly Asn Asn Gly Gly Ala Leu Asp Gly	Thr Leu Asn Met Asn Ile	
180	185	190
Arg Gly Ala Gly Thr Ile Gly Asp Gly Ser Gly	Ser Ser Pro Leu Val	
195	200	205
Leu Ile Asp Gly Ile Glu Gly Asp Leu Asn Thr	Val Val Asn Pro Asn Asp	
210	215	220
Ile Glu Ser Val Ser Val Leu Lys Asp Ala	Ala Ser Ala Ser Ile Tyr	
225	230	235
Gly Ala Arg Ala Ser Phe Gly Val Ile Leu Val	Thr Thr Lys Ser Gly	
245	250	255
Lys Ser Gly Lys Thr Asn Val Ser Tyr Ser Gly	Ser Ala Arg Phe Ser	
260	265	270
Asp Ala Ile Gly Val Pro Asp Ile Met Asp Ser	Tyr Thr Phe Ala Gln	
275	280	285
Tyr Phe Asn Arg Ala Ser Ala Asn Lys Gly	Gly Asp Ile Phe Ala	
290	295	300
Pro Ala Val Met Glu Arg Ile Lys Ala Tyr	Gln Glu Gly Thr Leu Lys	
305	310	315
Ala Thr Thr Val Asp Asn Gly Ala Gly Ile Trp	Gln Lys Trp Ala Asn	
325	330	335
Ala Asn Gly Asp Thr Asp Trp Phe Glu	Glu Phe Tyr Asp His Trp Ala	
340	345	350
Pro Ser Gln Glu His Asn Leu Ser Ile Asn Gly	Gly Thr Asp Lys Thr	
355	360	365
Gln Tyr Leu Ile Ser Gly Ser Phe Leu Asp Gln	Lys Gly Leu Met Arg	
370	375	380
His Gly Lys Asp Lys Phe Gln Arg Tyr Thr	Leu Asn Gly Lys Ile Thr	
385	390	395
Thr Ala Val Thr Asp Trp Phe Lys Val Thr	Tyr Ser Thr Lys Trp Thr	
405	410	415
Arg Glu Asp Phe Glu Arg Pro Ser Tyr	Leu Thr Gly Asn Phe Phe His	
420	425	430
Asn Leu Ala Arg Lys Trp Pro Val His Pro	Ala Tyr Asp Pro Asn Gly	
435	440	445
Phe Pro Met Asp Glu Gly Glu Val Glu Gln	Met Glu Asn Gly Gly Lys	
450	455	460
Gln Asn Ser Gln Lys Asp Phe Tyr Thr Asn	Gln Leu Gln Leu Val Phe	
465	470	475
Glu Pro Ile Lys Asn Trp Lys Ile Asn Leu	Asp Gly Ser Val Arg Thr	
485	490	495

Thr Thr Gln Tyr Gln His Trp Glu Val Leu Pro Val Tyr Ala Tyr Asn
 500 505 510
 Val Ala Gly Asp Pro Tyr Tyr Thr Val Trp Asp Met Gly Tyr Gly Ser
 515 520 525
 Tyr Ala Ala Gly Ser Ser Arg Val Asn Glu Tyr Ser Trp Lys Glu Asn
 530 535 540
 Tyr Tyr Thr Thr Asn Ile Tyr Ser Asp Tyr Phe Lys Gln Phe Asp Asn
 545 550 555 560
 Gly His Tyr Phe Lys Val Met Ala Gly Phe Asn Ala Glu Leu Tyr Lys
 565 570 575
 Thr Arg Asn Ile Thr Ala Glu Lys Asn Thr Leu Ile Thr Pro Gly Val
 580 585 590
 Pro Thr Ile Asn Thr Ala Thr Asp Asp Pro Gln Ala Tyr Gly Gly Tyr
 595 600 605
 Ala Asp Asn Ser Val Ala Gly Phe Phe Ala Arg Val Asn Trp Ser Tyr
 610 615 620
 Lys Asp Arg Tyr Met Phe Glu Ala Asn Gly Arg Tyr Asp Gly Ser Ser
 625 630 635 640
 Arg Phe Val Gly Lys Glu Arg Trp Gly Phe Phe Pro Ser Phe Ser Ala
 645 650 655
 Gly Trp Asn Ile Ala Arg Glu Pro Phe Met Glu Ser Phe Ala Glu Lys
 660 665 670
 Ile Asn Met Gly Ser Leu Lys Leu Arg Ala Ser Trp Gly Gln Leu Gly
 675 680 685
 Asn Thr Asn Thr Asn Asp Ala Trp Tyr Pro Phe Tyr Gln Thr Met Pro
 690 695 700
 Val Gly Ser Asn Tyr Gly Trp Leu Val Asn Gly Glu Arg Pro Asn Tyr
 705 710 715 720
 Ala Thr Asn Pro Gly Ile Val Ser Ser Lys Lys Thr Trp Glu Thr Val
 725 730 735
 Glu Thr Trp Asp Val Gly Leu Asp Trp Ser Phe Phe Asn Asn Arg Leu
 740 745 750
 Ser Gly Ser Phe Asp Tyr Phe Val Arg Tyr Thr Tyr Asp Met Ile Gly
 755 760 765
 Pro Ala Pro Glu Leu Ser Ser Leu Leu Gly Thr Ser Val Pro Lys Ile
 770 775 780
 Asn Asn Ser Asp Met Lys Ser Tyr Gly Phe Glu Leu Glu Val Asn Trp
 785 790 795 800
 Arg Asp Arg Ile Gly Glu Val Ser Tyr Gly Ala Lys Phe Val Leu Ser
 805 810 815
 Asp Asp Gln Gln Lys Ile Leu Arg Tyr Pro Asn Asp Ser Tyr Asp Val
 820 825 830
 Gly Ser Tyr Tyr Lys Gly Glu His Leu Asn Asp Ile Trp Gly Leu Thr
 835 840 845
 Thr Ile Gly Ile Ala Lys Ser Gln Glu Glu Met Asp Ala His Leu Ala
 850 855 860
 Lys Val Asp Gln Ser Ser Val Gly Thr Asn Trp Gly Val Gly Asp Ile
 865 870 875 880
 Met Tyr Ala Asp Leu Asp Gly Asp Gly Lys Ile Ser Asn Gly Thr Asn
 885 890 895
 Lys Leu Gly Asp Thr Gly Asp Tyr Arg Ile Ile Gly Asn Ser Thr Pro
 900 905 910
 Arg Phe Lys Tyr Gly Ile Thr Leu Asp Ala Ala Trp Lys Gly Phe Asp
 915 920 925
 Phe Ser Ile Phe Met Gln Gly Ile Gly Lys Arg Asp Leu Trp Leu Asp
 930 935 940
 Gly Cys Tyr Phe Trp Gly Ala Asn Gly Gln Gly Asn Glu Trp Gln Ser
 945 950 955 960
 Thr Gly Phe Ala Glu His Trp Asp Phe Phe Arg Pro Glu Gly Asp Pro

965	970	975
Leu Gly Ala Asn Leu Asn Ser Tyr Tyr	Pro Arg Val Asn Phe Ser Gly	
980	985	990
Asp Arg Asn Thr Lys Val Gln Thr Arg Tyr	Leu Gln Asn Gly Ala Tyr	
995	1000	1005
Leu Arg Leu Lys Asn Val Gln Leu Gly Tyr	Thr Leu Pro Arg Val Trp	
1010	1015	1020
Thr Glu Lys Ala Gly Ile Ser Ser Val Arg	Val Tyr Val Ser Gly Asp	
1025	1030	1035
Asn Leu Ala Thr Ile Thr Ser Leu Ser Lys	Ile Phe Asp Pro Glu Ala	
1045	1050	1055
Thr Gly Ser Leu Ala Gly Thr Gly Ser Gly	Lys Leu Tyr Pro Leu Gln	
1060	1065	1070
Arg Val Ile Ser Val Gly Val Asn Val Asn Phe		
1075	1080	

<210> 9522

<211> 861

<212> PRT

<213> B.fragilis

<400> 9522

Lys Ser Glu Gln Phe Met Met Lys	Leu Leu Tyr Gly Leu Val Cys		
1	5	10	15
Cys Cys Ser Leu Ala Tyr Gly Gln Asn Gln	Asp Thr Ser Asp Val Leu		
20	25	30	
Met Leu Asn Asp Asp Trp Ser Phe Ser Gln	Val Gly Thr Glu Lys Trp		
35	40	45	
Leu Thr Ala Thr Val Pro Gly Thr Val His	Gln Asp Leu Ile His His		
50	55	60	
Lys Leu Leu Pro Asp Pro Phe Tyr Gly Thr	Asn Glu Lys Lys Ile Gln		
65	70	75	80
Trp Val Glu Asp Glu Asp Trp Glu Tyr Lys	Thr Cys Phe Val Val Thr		
85	90	95	
Glu Glu Gln Leu Lys Arg Asp Ala Ala Gln	Leu Phe Phe Glu Gly Leu		
100	105	110	
Asp Thr Tyr Ala Asp Val Tyr Leu Asn Gly	Ser Leu Val Leu Lys Ser		
115	120	125	
Asp Asn Met Phe Val Gly Tyr Ala Val Pro	Val Lys Gln Val Leu Arg		
130	135	140	
Lys Gly Glu Asn Leu Leu His Val Tyr Phe	His Ser Pro Ile Lys Gln		
145	150	155	160
Thr Leu Pro Gln Trp Ser Ser Asn Gly	Phe Asn Tyr Pro Ala Asp Asn		
165	170	175	
Asp His His Glu Lys Arg Leu Ser Val Phe	Thr Arg Lys Ala Pro Tyr		
180	185	190	
Ser Tyr Gly Trp Asp Trp Gly Ile Arg Met	Val Thr Ser Gly Ile Trp		
195	200	205	
Arg Pro Val Thr Leu Arg Phe Tyr Asp Val	Ala Thr Ile Ala Asp Tyr		
210	215	220	
His Val Lys Gln Leu Ser Leu Thr Asp Gln	Val Ala Lys Leu Ser Asn		
225	230	235	240
Glu Leu Glu Ile Asn Ser Ile Ser Glu Lys	Glu Lys Ser Ala Glu Val		
245	250	255	
Leu Ile Ser Tyr Ser Leu Gln Gly Lys	Glu Val Thr Val Lys Glu		
260	265	270	
Asn Val Thr Leu Lys Pro Gly Leu Asn Lys	Ile His Ile Pro Leu Asp		
275	280	285	
Ile Gln Asn Pro Val Arg Trp Met Pro Asn	Gly Trp Gly Glu Pro His		

290	295	300
Leu Tyr Asp Phe Ser Ala Gln Val Ile Cys Asp Gly Lys Thr Ile Ala		
305	310	315
Ser Arg Gln His Arg Ile Gly Leu Arg Thr Ile Arg Val Val Asn Glu		320
325	330	335
Lys Asp Lys Glu Gly Glu Ser Phe Tyr Phe Glu Val Asn Gly Ile Pro		
340	345	350
Met Phe Ala Lys Gly Ala Asn Tyr Ile Pro Asp Asp Ala Leu Leu Pro		
355	360	365
Cys Ile Thr Thr Glu Arg Tyr Lys Thr Leu Phe Arg Asp Met Lys Glu		
370	375	380
Ala Asn Met Asn Met Val Arg Ile Trp Gly Gly Thr Tyr Glu Asp		
385	390	395
Asp Arg Phe Tyr Asp Leu Ala Asp Glu Asn Gly Ile Leu Val Trp Gln		400
405	410	415
Asp Phe Met Phe Ala Cys Thr Ala Tyr Pro Ser Asp Pro Thr Phe Leu		
420	425	430
Lys Arg Val Glu Glu Ala Glu Tyr Asn Ile Lys Arg Leu Arg Asn		
435	440	445
His Ala Ser Leu Ala Met Trp Cys Gly Asn Asn Glu Ile Leu Glu Gly		
450	455	460
Leu Lys Tyr Trp Gly Trp Gln Lys Asn Tyr Thr Pro Glu Val Tyr Glu		
465	470	475
Asn Met Phe Arg Gly Tyr Asp Lys Leu Phe Arg Gly Leu Leu Pro Ala		
485	490	495
Lys Val Gln Glu Leu Asp Glu Gly Arg Phe Tyr Lys His Ser Ser Pro		
500	505	510
Tyr Phe Ala Asn Trp Gly Arg Pro Glu Ser Trp Gly Ile Gly Asp Ser		
515	520	525
His Asn Trp Gly Val Trp Tyr Gly Lys Lys Thr Phe Glu Ser Leu Asp		
530	535	540
Thr Asp Leu Pro Arg Phe Met Ser Glu Phe Gly Phe Gln Ser Phe Pro		
545	550	555
Glu Met Lys Thr Ile Ala Thr Phe Ala Ala Pro Glu Asp Tyr Gln Ile		
565	570	575
Glu Ser Glu Val Met Asn Gly His Gln Lys Ser Ser Ile Gly Asn Asp		
580	585	590
Leu Ile Arg Thr Tyr Met Glu Arg Asp Tyr Ile Val Pro Glu Lys Phe		
595	600	605
Glu Asp Phe Val Tyr Ile Gly Leu Val Leu Gln Gly His Gly Met Arg		
610	615	620
His Gly Met Glu Ala His Arg Arg Asn Arg Pro Tyr Cys Met Gly Thr		
625	630	635
Leu Tyr Trp Gln Leu Asn Asp Ser Trp Pro Val Val Ser Trp Ser Ser		
645	650	655
Ile Asp Tyr Tyr Gly Asn Trp Lys Ala Leu His Tyr Gln Ala Lys Arg		
660	665	670
Ala Phe Ala Pro Leu Leu Val Asn Ala Ile Gln Glu Gly Asp Ser Leu		
675	680	685
Asn Ile Tyr Leu Ile Ser Asp Met Leu Glu Lys Gln Ser Gln Leu Thr		
690	695	700
Leu Glu Met Lys Val Ile Asp Phe Asn Gly Lys Thr Leu Asp Lys Glu		
705	710	715
Val Ile Lys Ala Val Glu Val Ala Met Asn Thr Ser Ser Cys Ile Val		
725	730	735
Arg Lys Pro Leu Asp Thr Trp Val Asn Pro Glu Gln Arg Lys Ser Ser		
740	745	750
Phe Leu Leu Leu Ser Leu Lys Asp Lys Ser Gly Arg Lys Val Ala Glu		
755	760	765

Glu Val Tyr Phe Phe Asp Lys Thr Lys Asn Leu Glu Leu Pro Gln Thr
 770 775 780
 Ala Ile Ser Met Lys Val Lys Gln Leu Asp Gly Lys Cys Glu Leu Thr
 785 790 795 800
 Leu Ser Ser Pro Lys Leu Ala Lys Asp Val Phe Val Gln Ile Pro Val
 805 810 815
 Gln Gly Ala Arg Phe Thr Asp Asn Phe Phe Asp Leu Leu Pro Gly Glu
 820 825 830
 Asn Lys Lys Ile Thr Ile Thr Ser Pro Glu Ile Lys Lys Gly Glu Ser
 835 840 845
 Leu Asn Ile Thr Val Lys His Val Arg Asp Thr Tyr Asn
 850 855 860

<210> 9523

<211> 549

<212> PRT

<213> B.fragilis

<400> 9523

Lys Ile Ile Asn Met Lys Arg Ala Lys Ser Thr Ile Leu Tyr Ser Leu
 1 5 10 15
 Leu Val Ala Phe Val Gly Val Leu Tyr Thr Ser Cys Ala Asp Lys Leu
 20 25 30
 Asp Leu Ser Pro Ile Asp Tyr Tyr Gly Ser Gly Ser Tyr Trp Lys Thr
 35 40 45
 Glu Ala His Val Ile Gly Tyr Met Asp Gly Ile His Lys His Leu Arg
 50 55 60
 Asp Ala Thr Phe Gln His Thr Phe Ile Trp Gly Glu Ala Arg Gly Gly
 65 70 75 80
 Ala Leu Ile Thr Ser Gly Thr Ser Ala Asp Gly Met Gly Met Leu Tyr
 85 90 95
 Gly Asp Ile Lys Leu Gln Asn Phe Asp Glu Asp His Thr Gly Gly Ile
 100 105 110
 Lys Lys Phe Gly Asp Ile Phe Gly Arg Leu Thr Asn Leu Asn Leu Phe
 115 120 125
 Ile Ala Arg Val Thr Asp Ala Thr Tyr Met Asp Asp Val Lys Lys Gly
 130 135 140
 Tyr Tyr Leu Gly Gln Ala Tyr Gly Leu Arg Ala Phe Tyr Tyr Phe Asp
 145 150 155 160
 Leu Tyr Arg Thr Tyr Gly Gly Val Pro Leu Arg Leu Thr Ala Asp Val
 165 170 175
 Val Glu Gly Val Ile Asp Pro Asn Lys Leu Tyr Met Ala Arg Ala Thr
 180 185 190
 Pro Lys Glu Val Met Asp Gln Ile Lys Lys Asp Leu Asp Lys Ser Met
 195 200 205
 Glu Ser Phe Gly Asp Asn Asn Ser Phe Asp Pro Asn Asn Arg Gly Asn
 210 215 220
 Lys Lys Gly Tyr Trp Ser Lys Ala Ala Thr Glu Cys Leu Met Gly Glu
 225 230 235 240
 Val Tyr Leu Trp Ile Ser Lys Val Ser Thr Gly Asp Asp Ala Ala Asn
 245 250 255
 Glu Ala Asn Leu Glu Ile Ala Lys Thr His Leu Gln Asn Val Ile Asn
 260 265 270
 Asn Tyr Gly Leu Lys Met Leu Asp Asp Phe Ser Ser Val Phe Asp Ala
 275 280 285
 Lys Asn Gly Lys Gly Asn Ser Glu Ile Ile Phe Ala Val Arg Tyr Met
 290 295 300
 Glu Gly Glu Ala Gly Asn Asn Asn Leu Phe Thr Tyr Ala Met Ala
 305 310 315 320

Thr Gly Ser Thr Lys Asp Asn Tyr Leu Ala Asn Gly Glu Lys Phe Leu
 325 330 335
 Asp Ala Leu Asn Ile Ala Asn Thr Gly Ser Gln Gln Leu Glu Tyr Lys
 340 345 350
 His Glu Ile Tyr Asn Ser Phe Asp Val Ala Asp Thr Arg Arg Glu Ala
 355 360 365
 Thr Phe Ile Ala Ser Tyr Ser Lys Asn Thr Glu Thr Lys Glu Leu Thr
 370 375 380
 Leu Arg Gly Thr His Val Arg Lys Asn Ile Gly Tyr Val Asn Ala Gln
 385 390 395 400
 Gly Ser Arg Ile Tyr Cys Gly Asp Tyr Ile Ile Tyr Arg Leu Pro Leu
 405 410 415
 Val Tyr Leu Met Leu Ala Glu Ile Glu Asn Met Gln Gly Gly Asp Val
 420 425 430
 Ala Lys Tyr Ile Asn Leu Val Arg Glu Arg Ala Tyr Ser Thr Asn Trp
 435 440 445
 Asp Lys Ala Ile Tyr Gly Tyr Thr Asn Ala Asp Phe Thr Thr Asn Glu
 450 455 460
 Leu Ala Ile Leu His Glu Lys Asp Lys Glu Phe Ile Gln Glu Gly Gln
 465 470 475 480
 Arg Trp Trp Asp Ile Arg Arg Met Thr Leu Thr Lys Gly Gly Lys His
 485 490 495
 Leu Val Phe Val Lys Glu Gly Ser Ile Gly Thr Asp Met Pro Thr Leu
 500 505 510
 Asp Glu Ala Thr Glu Ala His Lys Val Leu Trp Pro Val Asp Lys Asp
 515 520 525
 Leu Leu Gly Asn Asp Pro Leu Ile Tyr Gln Thr Pro Gly Tyr Ala Thr
 530 535 540
 Tyr Lys Lys Ala Glu
 545

<210> 9524

<211> 691

<212> PRT

<213> B.fragilis

<400> 9524

Ala Met Ile Lys Ile Leu Phe Leu Ser Leu Phe Leu Met Val Cys Thr
 1 5 10 15
 Ile Leu Ser Ala Gln Lys Arg Val Lys Val Ala Cys Val Gly Asn Ser
 20 25 30
 Ile Thr Tyr Gly Tyr Thr Leu Pro Asn Pro Ala Thr Asp Ser Tyr Pro
 35 40 45
 Ser Gln Leu Gln Gln Leu Leu Gly Glu Thr Tyr Glu Val Gly Asn Phe
 50 55 60
 Gly Lys Ser Gly Ala Thr Leu Leu Asn Lys Gly His Arg Pro Tyr Met
 65 70 75 80
 Gln Gln Glu Asp Phe Lys Lys Ala Ile Ala Phe Ala Gly Asp Ile Val
 85 90 95
 Val Ile His Leu Gly Ile Asn Asp Thr Asp Pro Arg Asp Trp Pro Asn
 100 105 110
 Tyr Arg Asp Ser Phe Val Lys Asp Tyr Leu Ala Leu Ile Asp Ser Phe
 115 120 125
 Arg Val Ala Asn Pro Lys Cys His Ile Ile Ile Ala Arg Leu Thr Pro
 130 135 140
 Ile Ala Asp Arg His Pro Arg Phe Glu Ser Gly Thr Arg Asp Trp His
 145 150 155 160
 Gly Glu Ile Gln Gln Ser Ile Glu Thr Ile Ala Lys Tyr Ala Gly Val
 165 170 175

Gln Leu Met Asp Phe His Glu Pro Leu Tyr Pro Tyr Pro Tyr Leu Leu
 180 185 190
 Pro Asp Ala Val His Pro Asn Val Glu Gly Ala Gly Ile Leu Ala Lys
 195 200 205
 Thr Val Tyr Ser Ala Ile Thr Gly Asp Phe Gly Gly Leu His Leu Ser
 210 215 220
 Glu Leu Tyr Thr Asp Asn Met Val Leu Gln His Gly Glu Pro Leu Ala
 225 230 235 240
 Ile Arg Gly Lys Ala Asn Ala Gly Glu Lys Val Thr Val Ser Ile Ala
 245 250 255
 Lys Gln Lys Leu Thr Ala Lys Ala Ala Ser Asn Gly Asp Trp Thr Val
 260 265 270
 Thr Ile Gln Pro Leu Lys Ala Gly Gly Pro Tyr Thr Leu Thr Val Ser
 275 280 285
 Ala Gly Lys Gln Lys Gln Thr Phe Asn Asn Val Leu Ala Gly Glu Val
 290 295 300
 Trp Leu Cys Ser Gly Gln Ser Asn Met Glu Phe Tyr Leu Ser Trp Ser
 305 310 315 320
 Lys Thr Ala Lys Arg Asp Ile Pro Gln Ala Ala Asn Asp Gln Ile Arg
 325 330 335
 Leu Phe Asp Met Lys Ala Arg Trp Arg Thr Asp Ala Val Glu Trp Asp
 340 345 350
 Ala Ser Val Leu Asp Ser Leu Asn His Leu Gln Tyr Tyr Lys Asp Thr
 355 360 365
 Glu Trp Thr Val Cys Ser Pro Ala Thr Ala Gly Ser Phe Ser Ala Val
 370 375 380
 Ala Tyr Tyr Phe Gly Lys Met Leu Gln Asp Ser Leu Lys Val Pro Val
 385 390 395 400
 Gly Leu Ile Cys Asn Ala Ile Gly Gly Ser Pro Thr Glu Ala Trp Val
 405 410 415
 Asp Arg Ser Thr Leu Glu Tyr Lys Phe Pro Ala Ile Leu Arg Asn Trp
 420 425 430
 Thr Gln Asn Asp Phe Ile Gln Asp Trp Val Arg Gly Arg Ala Ala Leu
 435 440 445
 Asn Val Lys Lys Ala Thr Asn Lys Gln Gln Arg His Pro Tyr Glu Pro
 450 455 460
 Cys Tyr Leu Tyr Glu Ala Gly Ile Arg Pro Leu Glu Gln Tyr Pro Ile
 465 470 475 480
 Lys Gly Ile Ile Trp Tyr Gln Gly Glu Ser Asn Ala His Asn Arg Glu
 485 490 495
 Ala His Glu Lys Leu Phe Lys Leu Leu Val Glu Ser Trp Arg Lys Asn
 500 505 510
 Trp Glu Asn Glu Asn Leu Pro Phe Tyr Tyr Val Gln Leu Ser Ser Ile
 515 520 525
 Asn Arg Pro Ser Trp Pro Trp Phe Arg Asp Ser Gln Arg Arg Met Met
 530 535 540
 Tyr Glu Ile Pro His Thr Gly Met Ala Val Ser Ser Asp Leu Gly Asp
 545 550 555 560
 Ser Leu Asp Val His Pro Lys His Lys Gln Pro Val Gly Glu Arg Leu
 565 570 575
 Ala His Trp Ala Leu Asn Gln Thr Tyr Gly Lys Lys Asn Val Thr Pro
 580 585 590
 Ser Gly Pro Met Phe Arg Asn Val Glu Phe Arg Asp Gly Ala Ala Tyr
 595 600 605
 Val Ser Phe Asp Cys Ala Glu Gly Met His Ala Ser Asp Gly Lys Pro
 610 615 620
 Leu Gln Thr Phe Glu Val Ala Glu Thr Glu Asp Ile Tyr Tyr Pro Ala
 625 630 635 640
 Thr Ala Glu Ile Val Gly Asn Gln Ile Lys Val Tyr Ser Lys Glu Val

645	650	655
Lys Asn Pro Leu His Val Arg Tyr Gly Trp Gln Pro Phe Thr Arg Ala		
660	665	670
Asn Leu Val Asn Gly Asp Gly Leu Pro Ala Ser Thr Phe Arg Thr Asp		
675	680	685
Trp Gly Lys		
690		

<210> 9525
<211> 521
<212> PRT
<213> B.fragilis

<400> 9525			
Ile Met Lys Lys Ile Ile Tyr Ile Ile Ser Leu Phe Val Ser Ser Val			
1	5	10	15
Leu Tyr Thr Ser Cys Asp Ala Leu Asp Leu Ala Pro Glu Asp Tyr Phe			
20	25	30	
Gly Ser Gly Asn Tyr Trp Asn Asn Glu Ala Gln Val Glu Gly Phe Met			
35	40	45	
Tyr Gly Met His Ser Gln Leu Arg Gly Asn Tyr Asn Met Phe Tyr Cys			
50	55	60	
Leu Gly Glu Leu Arg Gly Gly Thr Gln Arg Val Gly Ser Ser Ser Gln			
65	70	75	80
Asn Thr Ser Leu Asp Tyr Ala Ile Leu Arg Thr Asn Thr Leu Ser Gln			
85	90	95	
Asp Asn Pro Gly Phe Thr Asn Trp Phe Gly Leu Tyr Ser Pro Ile Met			
100	105	110	
Gln Val Asn His Phe Ile Gln Lys Val Glu Asn Glu Cys Ala Phe Leu			
115	120	125	
Ser Glu Ala Asp Arg Lys Thr Tyr Leu Gly Gln Ala Tyr Gly Leu Arg			
130	135	140	
Ala Leu Tyr Tyr Phe Met Leu Tyr Lys Thr Tyr Gly Gly Val Pro Ile			
145	150	155	160
Val Thr Thr Val Glu Leu Leu Asp Gly Lys Val Thr Ala Asp Lys Phe			
165	170	175	
Tyr Val Glu Arg Ala Thr Pro Glu Ala Thr Leu Ser Phe Ile Lys Glu			
180	185	190	
Asp Ile Gly Lys Ser Glu Ser Tyr Phe Gly Thr Thr Glu Ile Asn Asn			
195	200	205	
Lys His Asp Lys Thr Met Trp Ser Lys Ala Ala Thr Leu Met Leu Lys			
210	215	220	
Ala Glu Ile Tyr Met Trp Ala Ala Lys Val Ser Ile Asn Gly Tyr Thr			
225	230	235	240
Ala Ser Gly Lys Ser Asp Leu Glu Ile Ala Lys Asn Ala Leu Asn Gly			
245	250	255	
Ile Ile Gly Lys Phe Gln Leu Leu Asn Lys Phe Ser Asp Val Phe Ser			
260	265	270	
Thr Ser Asn Arg Asn Asn Ala Glu Val Ile Phe Thr Leu His Phe Ala			
275	280	285	
Asp Gly Glu Ala Thr Asn Trp Gly Gly Met Phe Leu Tyr Gln Asp Ala			
290	295	300	
Val Phe Ile Gly Gln Val Tyr Gly Arg Asp Asp Lys Lys Ile Glu Thr			
305	310	315	320
Asp Thr Leu Asn Leu Lys Gly Thr Gly Val Phe Arg His Glu Tyr			
325	330	335	
Thr Glu Asp Phe Trp Lys Ser Tyr Asp Glu Lys Asp Thr Arg Arg Asp			
340	345	350	
Ala Thr Phe Leu Glu Tyr Tyr Thr Lys Lys Asn Lys Glu Gly Phe Gly			

355	360	365
Cys Val Met Gln Lys Ala Ile Gly Ser Ile Asn Ser Asn Asn Asn Arg		
370	375	380
Ile Tyr Asp Thr Asp Phe Ile Val Tyr Arg Tyr Ala Asp Ala Leu Leu		
385	390	395
Met Met Ala Glu Val Glu Asn Gly Leu Gly Asn Pro Cys Ala Gly Tyr		400
405	410	415
Ile Asn Glu Val Arg Lys Arg Ala Tyr Gly Ser Asp Tyr Glu Ala Asn		
420	425	430
Lys Tyr Thr Glu Gly Asn Tyr Ala Glu Asn Glu Leu Ala Ile Leu His		
435	440	445
Glu Arg Asp Lys Glu Phe Val Trp Glu Gly Lys Arg Trp Phe Asp Val		
450	455	460
Val Arg Met His Asp Ala Asn Gly Lys Ser Leu Ala Phe Ser Ala Thr		
465	470	475
Ala Asn Tyr Pro Ala Asp Lys Ser Ile Leu Asp Pro Ser Glu Glu Tyr		480
485	490	495
Lys Leu Leu Trp Pro Ile Asp Val Asp Val Met Ser Val Asn Pro Leu		
500	505	510
Leu Lys Gln Thr Pro Gly Tyr Glu Lys		
515	520	

<210> 9526

<211> 64

<212> PRT

<213> B.fragilis

<400> 9526

His Thr Glu Asn Arg Lys Ala Lys Ile Glu Leu Arg Leu Phe Ser Trp		
1	5	10
Tyr Arg Leu Ile Asn Ile Tyr Val Ile Gly Ser Lys Asp Ser Ile Phe		15
20	25	30
Tyr Tyr Ile Thr Val Met Leu Ile Lys Tyr Phe Ile Ile Tyr Gly Arg		
35	40	45
Phe Asn Lys Gln Asp Thr Ile Arg Arg Lys Ala Leu Asn His Arg Lys		
50	55	60

<210> 9527

<211> 673

<212> PRT

<213> B.fragilis

<400> 9527

Ser Ile Met Lys Leu Lys Ile Lys Asn Leu Phe Val Gln Ala Cys Phe		
1	5	10
Val Ala Gly Gly Val Met Ala Leu Thr Ser Cys Asn Asp Phe Leu Asp		15
20	25	30
Arg Glu Pro Leu Ser Ser Val Thr Pro Glu Val Tyr Phe Gln Thr Val		
35	40	45
Asp His Phe Ala Ala Tyr Ser Ile Ala Arg Tyr Gln Asn Tyr Phe Pro		
50	55	60
Ser His Gly Gly Tyr Gly Ala Gly Ile Ala Asn Asn Asp Gly Gly Thr		
65	70	75
Asp Asn Met Val Ala Gly Gly Arg Ser Ser Arg Tyr Val Lys Gly Leu		80
85	90	95
Trp Lys Val Pro Ser Ser Asp Gly Asn Trp Ser Phe Ser Asn Ile Arg		
100	105	110
Tyr Cys Asn Tyr Phe Phe Glu Asn Ala Val Pro Lys Tyr Glu Ala Gly		
115	120	125

Glu Val Ala Gly Ala Asp Ala Asp Ile Arg His Tyr Ile Gly Glu Met
 130 135 140
 His Leu Met Arg Ala Leu Val Tyr Tyr Asn Leu Leu Arg Thr Tyr Gly
 145 150 155 160
 Asp Phe Pro Ile Val Thr Glu Val Leu Pro Asp Asp Lys Thr Val Leu
 165 170 175
 Met Glu Lys Gly Val Arg Gln Pro Arg Asn Leu Val Ala Arg Phe Ile
 180 185 190
 Leu Lys Asp Leu Asp Asp Ala Ala Asn Met Met Tyr Ser Lys Gly Phe
 195 200 205
 Lys Asn Asn Thr Arg Leu Asn Arg Glu Thr Ala Leu Leu Ile Lys Ser
 210 215 220
 Arg Val Ala Leu Tyr Glu Ala Ser Phe Glu Arg Tyr His Lys Gly Thr
 225 230 235 240
 Gly Arg Val Pro Gly Asp Asp Asn Trp Pro Gly Lys Lys Val His Ser
 245 250 255
 Asn Phe Ser Leu Asp Val Glu Ala Glu Val Asp Phe Phe Leu Thr Glu
 260 265 270
 Ala Met Lys Ala Ala Glu Glu Val Ala Asp Lys Ile Thr Leu Thr Pro
 275 280 285
 Asn Thr Lys Val Glu Asp Pro Ala Ser Pro Ser Ile Thr Ser Gly Trp
 290 295 300
 Asn Pro Tyr Phe Glu Met Tyr Ala Asn Val Asp Leu Ser Gly Tyr Asp
 305 310 315 320
 Glu Val Leu Phe Trp Arg Gln Tyr Ala Lys Thr Gly Ser Phe Ser Ile
 325 330 335
 Met His Gly Thr Pro Ala Trp Ile Ala Ser Gly Ser Asn His Gly Leu
 340 345 350
 Leu Lys Ser Tyr Val Glu Ser Phe Leu Met Gln Asp Gly Leu Pro Trp
 355 360 365
 Tyr Ala Ala Ser Ser Ala Ala Pro Tyr Lys Gly Asp Ala Thr Leu Asp
 370 375 380
 Asp Val Lys Ala Asn Arg Asp Asn Arg Leu Gln Leu Phe Met Phe Gly
 385 390 395 400
 Glu Ser Asn Phe Val Pro Val Tyr Ser Thr Glu Glu Pro Gly Thr Val
 405 410 415
 Lys Met Phe Ala Pro His Pro Val Ser Asn Arg Glu Glu Met Arg Asp
 420 425 430
 Gln Thr Gly Tyr Arg Ile Arg Lys Tyr Ala Ser Phe Asp Met Ala Gln
 435 440 445
 Asn Val Trp Gly Lys Ala Glu Ser Thr Thr Gly Cys Ile Ile Tyr Arg
 450 455 460
 Gly Val Glu Ala Tyr Leu Asn Tyr Leu Glu Ala Tyr Tyr Met Lys Asn
 465 470 475 480
 Gly Asn Val Thr Gly Lys Ala Ala Gln Tyr Trp Arg Ala Val Arg Glu
 485 490 495
 Arg Ala Gly Val Asp Pro Asp Phe Thr Lys Thr Ile Asn Ala Thr Asp
 500 505 510
 Leu Ser Gln Glu Thr Asp Trp Gly Lys Tyr Ser Gly Gly Gln Val Val
 515 520 525
 Asp Ala Thr Leu Leu Asn Ile Arg Arg Glu Arg Arg Cys Glu Phe Ile
 530 535 540
 Gly Glu Gly Met Arg Trp Asp Asp Leu Val Arg Trp Arg Ser Met Asp
 545 550 555 560
 His Leu Leu Thr Lys Asn Tyr Ile Pro Glu Gly Cys Asn Phe Trp Asp
 565 570 575
 Glu Met Tyr Lys Ser Ala Asn Lys Asp Glu Asn Gly Ala Glu Val Thr
 580 585 590
 Phe Lys Asp Ser Gly Glu Gly Ser Asn Ile Ser Ser Arg Ser Phe

595	600	605
Lys Tyr Leu Arg Pro Tyr Ala Ile Leu Lys Thr Asn Asn Asp Val Tyr		
610	615	620
Asp Gly Tyr Thr Trp Gln Lys Ala His Tyr Leu Asn Pro Val Pro Val		
625	630	635
Arg Glu Met Glu Leu Leu Ser Pro Asp Glu Lys Ala Glu Thr Ser Val		640
645	650	655
Leu Tyr Gln Asn Pro Tyr Trp Ser Thr Lys Ile Gly Glu Val Ala Glu		
660	665	670
Glu		

<210> 9528

<211> 209

<212> PRT

<213> B.fragilis

<400> 9528

Lys Arg Met Lys Lys Ile Leu Leu Met Met Leu Leu Leu Ala Ser Met		
1	5	10
Ala Ser Asn Ala Gln Glu Arg Lys Tyr Ser Thr Phe Tyr Tyr Gln Arg		
20	25	30
Ala Thr Leu Phe Glu Glu Leu Pro Val Thr Ser Lys Asp Ile Ile Phe		
35	40	45
Leu Gly Asn Ser Ile Thr Asn Gly Gly Glu Trp Ser Glu Leu Leu Asn		
50	55	60
Asn Lys His Val Lys Asn Arg Gly Ile Ser Gly Asp Ile Cys Met Gly		
65	70	75
Val Tyr Asp Arg Leu Asp Ala Ile Leu Lys Gly Lys Pro Ala Lys Ile		80
85	90	95
Phe Leu Leu Ile Gly Ile Asn Asp Val Ser Arg Gly Thr Ser Ala Asp		
100	105	110
Thr Ile Val Asn Arg Ile Gly Met Ile Thr Gln Lys Ile Lys Gln Asp		
115	120	125
Ser Pro Lys Thr Lys Leu Tyr Leu Gln Ser Val Leu Pro Val Thr Asp		
130	135	140
His Tyr Lys Met Phe Gly Gly His Thr Ser Arg Trp Gln Glu Val Lys		
145	150	155
Lys Ile Asn Glu Gly Leu Met Tyr Leu Ala Asp Lys Glu Asn Val Thr		160
165	170	175
Tyr Ile Asp Leu Tyr Ser His Phe Val Asp Glu Lys Thr Gly Lys Met		
180	185	190
Asn Ile Glu Tyr Thr Asn Asp Gly Leu His Leu Leu Gly Lys Gly Tyr		
195	200	205
Leu		

<210> 9529

<211> 1093

<212> PRT

<213> B.fragilis

<400> 9529

Lys Ala Ile Leu Met Lys Lys Thr Ile Phe Leu Ile Leu Cys Ile Leu		
1	5	10
Cys Ser Leu Gly Ala Met Ala Gln Lys Lys Ser Ile Thr Gly Val Ile		
20	25	30
Thr Asp Gly Ala Gly Glu Ser Ile Ile Gly Ala Ser Val Val Glu Val		
35	40	45

Gly Thr Thr Asn Gly Thr Ile Thr Asp Phe Asp Gly Lys Phe Ser Leu
 50 55 60
 Thr Ile Ala Thr Gly Ala Lys Phe Thr Val Ser Tyr Ile Gly Tyr Lys
 65 70 75 80
 Ser Gln Thr Ile Thr Val Gly Ala Glu Asn Thr Tyr Asn Ile Val Leu
 85 90 95
 Lys Glu Asp Thr Glu Val Leu Asp Glu Val Val Ile Thr Gly Tyr Gly
 100 105 110
 Gly Ser Gln Lys Arg Ala Thr Leu Thr Ala Ile Ser Lys Leu Asp
 115 120 125
 Asn Ser Val Leu Lys Asn Ala Ala Phe Ser Asn Ala Gly Gln Ser Leu
 130 135 140
 Gln Gly Ser Val Thr Gly Leu Arg Val Val Asn Lys Thr Gly Gln Pro
 145 150 155 160
 Gly Ser Glu Pro Asp Ile Thr Leu Arg Gly Gly Ala Thr Ile Thr Gly
 165 170 175
 Asp Asn Ser Lys Ala Leu Ile Val Val Asp Gly Ile Val Arg Asn Ser
 180 185 190
 Met Ser Asp Ile Asn Pro Ser Asp Ile Glu Ser Ile Gln Val Leu Lys
 195 200 205
 Asp Ala Ala Ser Thr Ala Ile Tyr Gly Ala Arg Ala Asn Gly Gly Val
 210 215 220
 Ile Leu Val Glu Thr Lys Ser Gly Lys Glu Gly Lys Ala Ser Val Asn
 225 230 235 240
 Tyr Lys Phe Lys Met Gly Val Asn Phe Ala Arg Lys Gly Tyr Asp Phe
 245 250 255
 Cys Asp Ala His Asp Tyr Ile Tyr Tyr Asn Arg Leu Gly Tyr Lys Arg
 260 265 270
 Thr Gly Arg Thr Asn Val Asp Thr Gln Met Gly Tyr Gly Ile Gly Asn
 275 280 285
 Asn Leu Phe Asp Ile Arg Tyr Leu Thr Asp Glu Asn Ala Asn Leu Lys
 290 295 300
 Asn Glu Gly Trp Ala Ser Met Ala Asp Pro Phe Tyr Asp Gly Lys Thr
 305 310 315 320
 Ile Leu Tyr Lys Asp Tyr Ser Gly Glu Leu Asp Asp Val Val Phe Asn
 325 330 335
 Asn Ser Ala Leu Thr Gln Asp His Tyr Val Asn Ile Thr Gly Gly Asn
 340 345 350
 Asp Lys Gly Thr Phe Ser Ala Ser Leu Gly Tyr Tyr Lys Glu Asp Gly
 355 360 365
 Gln Ile Arg Gly Thr Gly Tyr Glu Arg Phe Asn Gly Ala Leu Asn Gly
 370 375 380
 Ser Tyr Lys Val Phe Pro Phe Leu Thr Val Lys Ala Asn Ala Thr Tyr
 385 390 395 400
 Ser Trp Ser Thr Gln Pro Glu Leu Trp Ile Gly Gln Tyr Glu Phe Phe
 405 410 415
 Tyr Arg Thr Arg Ser Gln Arg Pro Thr Trp Asn Pro Trp Asn Glu Asp
 420 425 430
 Gly Thr Pro Ala Ser Gly Phe Gly Thr Gly Asp Gly Asn Pro Asp Tyr
 435 440 445
 Tyr Arg Asp Lys Leu Thr Ser Glu Asn Ser Thr Asn Lys Ser Thr Tyr
 450 455 460
 Ser Val Gly Phe Ala Leu Asp Ile Leu Pro Lys Lys Leu Val Leu Asn
 465 470 475 480
 Gly Asn Ala Ser Leu Tyr Arg Tyr Asp Trp Gln Arg Glu Lys Phe Asn
 485 490 495
 Lys Ser Tyr Gln Ala Gln Ser Ser Ala Thr Pro Asp Asn Thr Arg Gln
 500 505 510
 Ala Glu Ala Tyr Val Gln Lys Tyr Asn Gln Ile Gln Leu Asn Gly Thr

515	520	525
Leu Thr Tyr Thr Asp Thr Phe Ala Glu Lys His Asn Leu Glu Ala Met		
530	535	540
Leu Gly Thr Glu Tyr Phe Thr Tyr Asp Gln Phe Asp Phe Glu Ala Lys		
545	550	555
Thr Gln Asn Ser Pro Thr Asp Asp Ile Pro Thr Leu Asn Ala Gly Ser		
565	570	575
Thr Arg Thr Tyr Thr Ser Thr Thr Lys Thr Ala Tyr Arg Ile Leu Ser		
580	585	590
Gly Phe Gly Arg Ile Asn Tyr Asn Tyr Asp Met Arg Tyr Leu Ile Ser		
595	600	605
Phe Val Ala Arg Tyr Asp Gly Ile Ser Lys Leu Lys Asp Asn Arg Trp		
610	615	620
Gly Phe Phe Pro Gly Val Ser Val Gly Trp Asn Ile Met Glu Glu Arg		
625	630	635
Phe Trp Lys Asp Ser Lys Ile Ser Gly Val Ile Ser Asn Leu Lys Pro		
645	650	655
Arg Leu Ser Tyr Gly Val Asn Gly Asn Val Asn Gly Ile Gly Asn Phe		
660	665	670
Asp Val Tyr Gly Ala Tyr Ser Gln Val Gly Ala Lys Thr Tyr Gly Gly		
675	680	685
Ser Thr Ala Phe Tyr Asn Ser Gly Leu Val Asn Thr Gly Leu Arg Trp		
690	695	700
Glu Gln Ser Gln Ser Phe Glu Ala Gly Leu Asp Ile Gly Phe Leu Asn		
705	710	715
Asn Arg Leu Ser Phe Ile Leu Asp Tyr Tyr Asn Arg Thr Thr Lys Asp		
725	730	735
Leu Leu Thr Lys Gln Ala Leu Pro Gly Tyr Thr Gly Phe Thr Glu Ile		
740	745	750
Met Thr Asn Met Gly Thr Leu Arg Asn Tyr Gly Phe Glu Met Glu Val		
755	760	765
Arg Ala Asn Ile Leu Asn Asn Pro Lys Gly Leu Thr Trp Asp Val Thr		
770	775	780
Ala Asn Leu Ser Ser Val Ala Asn Lys Ile Val Lys Leu Pro Tyr Asn		
785	790	795
Gly Asn Pro Asn Asn Arg Val Gly Gly Tyr Glu Val Ala Thr Gly Arg		
805	810	815
Lys Lys Ala Asp Gly Thr Asp Glu Thr Lys Trp Ile Ala Gly Arg Gln		
820	825	830
Glu Gly Lys Leu Gly Glu Leu Val Ala Tyr Lys Gln Asn His Ile		
835	840	845
Phe Lys Asp Trp Asp Asp Val Lys Lys Tyr Ala Asn Asn Arg Ile Asp		
850	855	860
Glu Val Ala Asn Leu Tyr Gly Pro Gly Leu Ala Ala Gln Tyr Ala Gly		
865	870	875
Lys Glu Gly Trp Gln Pro Ile Glu Pro Gly Asp Val Cys Trp Glu Asp		
885	890	895
Ile Asn Gly Asp Gly Val Ile Asn Gly Tyr Asp Arg Gln Val Val Gly		
900	905	910
Asn Ile Phe Pro Lys Val Thr Gly Gly Phe Ser Thr Thr Leu Gly Tyr		
915	920	925
Lys Asn Leu Ser Leu Tyr Ala Arg Phe Asp Tyr Ala Leu Gly His Thr		
930	935	940
Ile Tyr Asn Asp Leu Ala Ala Arg Ser Leu Gly Gln Tyr Gln Gly Ser		
945	950	955
Phe Asn Ile Ile Lys Glu Val Lys Lys Thr Trp Ser Glu Thr Asn Thr		
965	970	975
Asp Thr Asp Leu Pro Ala Phe Tyr Tyr Ala Asp Gln Leu Ser Lys Lys		
980	985	990

Asn Ile Thr Arg Ser Asn Asn Gly Leu Thr Ala Ile Asp Asn Asn Ser
 995 1000 1005
 Ser Arg Phe Tyr Glu Lys Gly Asp Tyr Leu Ala Leu Arg Glu Leu Thr
 1010 1015 1020
 Leu Asn Tyr Asn Leu Pro Lys Thr Trp Ile Ser Lys Val Gly Met Thr
 1025 1030 1035 1040
 Asp Ala Ser Val Tyr Val Thr Gly Gln Asn Leu Phe Tyr Ile Thr Gly
 1045 1050 1055
 Tyr Thr Gly Val Ser Pro Glu Pro Ala Val Asp Thr Thr Tyr Gly Arg
 1060 1065 1070
 Gly Ile Asp Asn Gly Arg Tyr Pro Thr Pro Arg Thr Val Leu Phe Gly
 1075 1080 1085
 Leu Ser Val Thr Phe
 1090

<210> 9530

<211> 434

<212> PRT

<213> B.fragilis

<400> 9530

Gly Leu Ile Arg Arg Leu Leu Glu Pro Pro Val Lys Thr Asp Lys Lys
 1 5 10 15
 Thr Leu Met Gly Asn Gly Asn Phe Thr Gly Thr Glu Ile Tyr Asp Tyr
 20 25 30
 His Arg Lys Met Tyr Gly Glu Asp Phe Thr Tyr Ala Asp Phe Ala Pro
 35 40 45
 Met Phe Lys Ala Leu Ser Tyr Asp Pro Glu Glu Trp Ala Asp Leu Phe
 50 55 60
 Glu His Ser Gly Ala Lys Tyr Val Val Leu Thr Thr Lys His His Asp
 65 70 75 80
 Gly Phe Ala Leu Trp Pro Ser Arg Glu Ala Ser Ile Ser Tyr Gly Arg
 85 90 95
 Pro Trp Asn Ser Met Glu Ile Gly Ala His Arg Asp Leu Val Gly Glu
 100 105 110
 Tyr Val Asn Ala Leu Arg Lys Thr Asp Ile Lys Val Gly Cys Tyr Phe
 115 120 125
 Ser Leu Arg Glu Trp Asp Asn Pro Leu Tyr Asn Lys Glu Thr Met Asp
 130 135 140
 Leu Phe Tyr Glu Arg His Trp Phe Pro Gln Leu Gln Asp Leu Val Asn
 145 150 155 160
 Arg Tyr Lys Pro Asp Leu Ile Trp Ala Asp Gly Pro Asp Gln Ile Asn
 165 170 175
 Asp Lys Gln Trp Gln Ala Glu Arg Thr Leu Ala Trp Leu Tyr Ser Glu
 180 185 190
 Ser Pro Val Lys Asp Ser Ile Val Val Asn Asp Arg Trp Ala Asn Asn
 195 200 205
 Thr Gly Lys Lys His Gly Asp Tyr Tyr Thr Arg Glu Tyr Ser Asn Thr
 210 215 220
 Asn Ser Ser Tyr Asn Lys Pro Trp Glu Glu Cys Arg Gly Ile Gly Leu
 225 230 235 240
 Ser Phe Gly Tyr Asn Gln Asn Glu Asp Leu Gly Asp Tyr Thr Ser Pro
 245 250 255
 Lys Ala Leu Ile Leu Thr Leu Val Asn Ile Val Ser Gln Gly Gly Asn
 260 265 270
 Leu Leu Leu Asp Ile Gly Pro Asn Ala Asn Gly Lys Ile Pro Pro Ile
 275 280 285
 Met Gln Glu Arg Leu Leu Gln Ile Gly Lys Trp Leu Lys Val Asn Gly
 290 295 300

Glu Ala Ile Tyr Gly Thr Arg Ala Trp Gly Asn Phe Cys Gln Trp Ser
 305 310 315 320
 Lys Gly Ser Lys Glu Trp Lys Ser Lys Glu Lys His Tyr Val Ser Gly
 325 330 335
 Asp Ala Ile Leu Lys Gln Thr Val Asp Pro Asp Pro Gly Tyr Ala Val
 340 345 350
 Lys Glu Val Phe Phe Thr Lys Lys Gly Asn Asn Val Tyr Ala Ile Leu
 355 360 365
 Pro Arg Tyr Pro Lys Asn Lys Ile Val Leu Lys Asp Ile Gln Thr Thr
 370 375 380
 Gly Arg Thr Lys Ile Thr Leu Leu Gly Ser Asp Lys Lys Val Gln Trp
 385 390 395 400
 Lys Gln Lys Gly Asn Asp Ile Glu Val Ile Met Pro Leu Leu Tyr Val
 405 410 415
 Asp Glu Leu Pro Cys Asp Tyr Ala Trp Val Leu Lys Leu Glu Lys Ile
 420 425 430
 Ser Glu

<210> 9531
 <211> 672
 <212> PRT
 <213> B.fragilis

<400> 9531
 Ile Pro Met Arg Asn Lys Gln Ile Phe Leu Ile Ser Phe Ile Ile Tyr
 1 5 10 15
 Leu Cys Thr Ile Ser Ser Val Arg Ala Gly Glu Tyr His Leu Leu Pro
 20 25 30
 Glu Pro Gln Lys Phe Thr Pro Leu Gly Ser Ser Phe Val Leu Gly Arg
 35 40 45
 Thr Lys Leu Ser Thr Pro Val Leu Arg Gln Glu Trp Glu Ala Phe Val
 50 55 60
 Val Asp Arg Gly Gly Val Ile Asp Asp Lys Ala Arg Ala Ser Ile Glu
 65 70 75 80
 Val Lys Leu Val Pro Ser Leu Glu Glu Val Pro Leu Asn Ala Asp Glu
 85 90 95
 Ala Tyr Arg Leu Val Val Asn Asn Gly Lys Val Thr Val Glu Ala Val
 100 105 110
 Thr Glu His Gly Val Tyr Trp Ala Met Gln Thr Leu Ala Gln Leu Gln
 115 120 125
 Asp Val Gln Lys Lys Ala Thr Phe Asn Gly Cys Ser Ile Val Asp
 130 135 140
 Trp Pro Ala Phe Arg Ile Arg Gly Phe Met Gln Asp Val Gly Arg Thr
 145 150 155 160
 Tyr Met Ser Ile Glu Glu Leu Lys Arg Glu Ile Ala Val Leu Ser Arg
 165 170 175
 Phe Lys Ile Asn Val Phe His Trp His Leu Thr Glu Asn Gln Ser Trp
 180 185 190
 Arg Leu Gln Ser Lys Ile Phe Pro Met Leu Asn Asp Ser Val Asn Thr
 195 200 205
 Thr Arg Met Pro Gly Lys Tyr Tyr Thr Leu Glu Glu Ala Lys Asp Leu
 210 215 220
 Val Ala Phe Cys Lys Ala His Asn Ile Leu Leu Ile Pro Glu Phe Asp
 225 230 235 240
 Met Pro Gly His Ser Gly Ala Phe Val Arg Thr Phe Arg His Asp Met
 245 250 255
 Gln Ser Pro Glu Gly Met Lys Ile Leu Lys Leu Leu Val Asp Glu Val
 260 265 270

Cys Glu Thr Phe Asp Val Pro Tyr Leu His Ile Gly Thr Asp Glu Val
 275 280 285
 Arg Phe Thr Asn Pro Lys Phe Val Pro Glu Met Val Glu Tyr Val Arg
 290 295 300
 Ala Lys Gly Lys Lys Val Ile Ser Trp Asn Pro Gly Trp His Tyr Lys
 305 310 315 320
 Pro Gly Glu Ile Asp Met Thr His Leu Trp Ser Tyr Arg Gly Lys Ala
 325 330 335
 Gln Lys Gly Ile Pro Ala Ile Asp Ser Lys Phe His Tyr Leu Asn His
 340 345 350
 Phe Asp Thr Phe Gly Asp Ile Ile Ala Leu Tyr Asn Ser Arg Ile Tyr
 355 360 365
 Asn Val Glu Gln Gly Ser Asp Asp Ile Ala Gly Thr Ile Leu Ala Ile
 370 375 380
 Trp Asn Asp Arg Tyr Val Ala Asn Glu Arg Asn Ile Ile Leu Glu Asn
 385 390 395 400
 Asn Phe Tyr Pro Asn Met Leu Ala Ile Ala Glu Arg Ala Trp Lys Gly
 405 410 415
 Gly Gly Thr Glu Tyr Phe Asp Lys Asn Gly Thr Ile Leu Pro Ser Glu
 420 425 430
 Gly Ser Pro Glu Phe Lys Glu Phe Ala Asp Phe Glu Asn Arg Met Leu
 435 440 445
 Trp His Lys Glu His Thr Phe Lys Gly Tyr Pro Phe Ala Tyr Val Lys
 450 455 460
 Gln Thr Asn Val Lys Trp Asn Ile Thr Asp Ala Phe Pro Asn Gly Gly
 465 470 475 480
 Asp Leu Asn Lys Val Phe Pro Pro Glu Gln Glu Leu Lys Asp Ser Tyr
 485 490 495
 Leu Tyr Glu Gly Lys Glu Tyr Gly Val His Pro Ala Ile Gly Ala Gly
 500 505 510
 Ile Tyr Leu Arg His Val Trp Gly Lys Met Val Pro Thr Phe Tyr Lys
 515 520 525
 Asp Pro Gln Glu Asn His Thr Ala Tyr Ala Tyr Thr Trp Val Tyr Ser
 530 535 540
 Pro Lys Asp Gln Glu Val Gly Leu Trp Ala Glu Phe Gln Asn Tyr Gly
 545 550 555 560
 Arg Ser Glu Met Asp Leu Ala Pro Leu Gln Gly Lys Trp Asp Tyr Lys
 565 570 575
 Gly Ser Arg Ile Trp Ile Asn Asn Glu Glu Ile Gln Pro Pro Val Trp
 580 585 590
 Thr Ala Thr His Arg Thr Lys Ser Asn Glu Ile Ala Leu Gly Asn Glu
 595 600 605
 Asn Cys Val Ala Arg Pro Pro Ile Ala Val His Leu Asn Lys Gly Trp
 610 615 620
 Asn Lys Val Phe Leu Lys Leu Pro Val Gly Lys Phe Asn Met Pro Glu
 625 630 635 640
 Val Arg Leu Val Lys Trp Met Phe Thr Thr Val Phe Val Thr Pro Asp
 645 650 655
 Gly Glu Asn Ala Val Asp Gly Leu Ile Tyr Ser Pro Asp Lys Thr Lys
 660 665 670

<210> 9532

<211> 71

<212> PRT

<213> B.fragilis

<400> 9532

Ala Lys Asn Gly Glu Lys Arg Lys Phe Cys Glu Tyr Phe Gln Thr Ser
 1 5 10 15

Lys Asn Gln Ala Phe Ile Leu Phe Leu Val Leu Val Phe Ser Leu His
 20 25 30
 Lys Gly Leu Lys Met Asn Leu Leu Glu Gly Asp Lys Ser Ser Ile Lys
 35 40 45
 Ile Arg Leu Ile His Leu Leu Lys Asn Glu Leu Met Ile Phe Phe Gln
 50 55 60
 Asn Pro Thr Glu Val Arg Cys
 65 70

<210> 9533

<211> 518

<212> PRT

<213> B.fragilis

<400> 9533

Ile Ile Cys Met Arg Asn Leu Phe Lys Ile Ala Gly Leu Leu Ala Leu
 1 5 10 15
 Thr Gly Phe Ile Ser Ser Cys Asn Asp Lys Glu Thr Thr Ala Asn Tyr
 20 25 30
 Gln Val Ile Pro Leu Pro Gln Glu Ile Thr Thr Ala Gln Ser Gln Pro
 35 40 45
 Phe Thr Leu Asn Gly Ser Val Lys Ile Ile Tyr Pro Glu Gly Asn Glu
 50 55 60
 Lys Met Gln Arg Asn Ala Gln Phe Leu Ala Asp Tyr Leu Lys Lys Ala
 65 70 75 80
 Thr Gly Lys Asp Tyr Ala Val Glu Ala Gly Thr Glu Gly Lys Gly Ala
 85 90 95
 Ile Leu Leu Lys Leu Gly Met Glu Ser Glu Asn Pro Glu Ala Tyr Gln
 100 105 110
 Leu Ser Val Asn Ala Asp Gly Val Thr Ile Ala Ala Pro Thr Glu Ala
 115 120 125
 Gly Val Phe Tyr Gly Ile Gln Thr Leu Arg Lys Ser Ile Pro Val Ala
 130 135 140
 Ile Gly Thr Thr Pro Ser Leu Pro Ala Val Glu Ile Ser Asp Tyr Pro
 145 150 155 160
 Arg Phe Ser Tyr Arg Gly Ala His Phe Asp Val Gly Arg His Phe Phe
 165 170 175
 Thr Val Asp Glu Val Lys Thr Tyr Ile Asp Met Met Ala Leu His Asn
 180 185 190
 Met Asn Arg Leu His Trp His Leu Thr Glu Asp Gln Gly Trp Arg Leu
 195 200 205
 Glu Ile Lys Lys Tyr Pro Lys Leu Thr Glu Ile Gly Ser Lys Arg Ser
 210 215 220
 Glu Thr Val Ile Gly Arg Asn Ser Gly Glu Tyr Asp Gly Lys Pro Tyr
 225 230 235 240
 Gly Gly Phe Tyr Thr Gln Glu Glu Ala Arg Glu Ile Val Ala Tyr Ala
 245 250 255
 Ala Asp Arg Tyr Ile Thr Val Ile Pro Glu Ile Asp Leu Pro Gly His
 260 265 270
 Met Gln Gly Ala Leu Ala Ala Tyr Pro His Leu Gly Cys Thr Gly Gly
 275 280 285
 Pro Tyr Glu Val Trp Lys Ile Trp Gly Val Ser Asp Gln Val Leu Cys
 290 295 300
 Ala Gly Asn Asp Ser Val Leu Thr Phe Ile Asp Asp Val Leu Thr Glu
 305 310 315 320
 Val Met Asp Ile Phe Pro Ser Glu Tyr Ile His Val Gly Gly Asp Glu
 325 330 335
 Cys Pro Lys Thr Glu Trp Ala Lys Cys Pro Lys Cys Gln Ala Arg Ile
 340 345 350

Lys Ala Leu Gly Ile Lys Ser Asp Ala Lys His Ser Lys Glu Glu Tyr
 355 360 365
 Leu Gln Ser Phe Val Ile Asn His Ala Glu Lys Phe Leu Asn Glu His
 370 375 380
 Gly Arg Gln Ile Ile Gly Trp Asp Glu Ile Leu Glu Gly Gly Leu Ala
 385 390 395 400
 Pro Asn Ala Thr Val Met Ser Trp Arg Gly Glu Gly Gly Ile Glu
 405 410 415
 Ala Ala Lys Gln Lys His Asp Val Ile Met Thr Pro Asn Thr Tyr Leu
 420 425 430
 Tyr Phe Asp Tyr Tyr Gln Thr Lys Asp Thr Glu Asn Glu Pro Leu Ala
 435 440 445
 Ile Gly Gly Tyr Leu Pro Leu Glu Arg Val Tyr Gly Tyr Gln Pro Met
 450 455 460
 Pro Ser Ser Leu Thr Pro Glu Glu Gln Lys Tyr Ile Ile Gly Val Gln
 465 470 475 480
 Ala Asn Leu Trp Thr Glu Tyr Ile Pro Thr Phe Ser Gln Ala Gln His
 485 490 495
 Met Val Leu Pro Arg Trp Ala Ala Leu Ala Tyr Val Pro Trp Pro Asn
 500 505 510
 Pro Glu Met Lys Ser Tyr
 515

<210> 9534
 <211> 529
 <212> PRT
 <213> B.fragilis

<400> 9534
 Lys Ile Asn Ile Val Thr Asn Met Lys Lys Ile Thr Ser Ile Leu Leu
 1 5 10 15
 Phe Leu Ser Ala Leu Leu Tyr Val Ser Cys Asp Ala Leu Asp Leu Ser
 20 25 30
 Pro Glu Asp Tyr Tyr Gly Ser Gly Asn Phe Trp Thr Lys Glu Ala Gln
 35 40 45
 Val Glu Gly Tyr Met Asn Gly Leu His Asn Asn Leu Arg Ser Ser Tyr
 50 55 60
 Thr Met Phe Tyr Val Leu Gly Glu Ala Arg Gly Gly Thr Ser Arg Tyr
 65 70 75 80
 Gly Thr Ser Ser Leu Gly Thr Ser Met Ser Tyr Ser Asp Pro Ile Lys
 85 90 95
 Asn Asn Met Leu Thr Lys Asp Asn Thr Gly Ile Ser Asn Trp Tyr Asp
 100 105 110
 Leu Tyr Gly Arg Ile Met Gln Val Asn His Phe Ile Ser Glu Val Ser
 115 120 125
 Asn Gly Cys Ser Phe Leu Ser Glu Ser Lys Lys Gly Phe Tyr Leu Gly
 130 135 140
 Gln Ala Tyr Gly Leu Arg Ala Leu Tyr Tyr Phe Met Leu Tyr Lys Thr
 145 150 155 160
 Tyr Gly Gly Val Pro Leu Ile Thr Asp Val Lys Val Leu Glu Gly Gly
 165 170 175
 Lys Ile Ser Ala Asp Ala Leu Tyr Thr Glu Arg Ser Thr Pro Glu Thr
 180 185 190
 Ile Leu Lys Phe Ile Lys Ser Asp Leu Glu Ala Ser Glu Leu Asn Phe
 195 200 205
 Gly Asn Asn Val Thr Ile Asp Arg Ala Met Trp Thr Lys Tyr Ala Thr
 210 215 220
 Leu Met Leu Lys Ala Glu Val Tyr Met Trp Ser Ala Lys Val Thr Thr
 225 230 235 240

Gly Asp His Gln Ala Thr Gly Asn Ser Asp Leu Ala Ile Ala Gln Thr
 245 250 255
 Ala Leu Gln Pro Leu Ile Asn Gln Phe Ser Leu Leu Asp Asn Phe Ser
 260 265 270
 Glu Val Phe Ser Lys Lys Ala Asn Asp Glu Ile Ile Phe Ala Ile Arg
 275 280 285
 Phe Lys Asp Gly Glu Ala Thr Asn Trp Ala Gly Pro Phe Ile Tyr Tyr
 290 295 300
 Gly Asn Ile Phe Glu Gly Gln Arg Tyr Gly Arg Asp Gly Lys Leu Met
 305 310 315 320
 Gln Asp Thr Leu Asp Leu Lys Gly Thr Val Gly Gln Phe Leu His Glu
 325 330 335
 Tyr Lys Lys Ala Leu Trp Asp Ser Tyr Asp Asp Glu Asp Met Arg Arg
 340 345 350
 Asp Ala Thr Phe Met Asp His Tyr Gly Ser Ala Gln Lys Glu Gly Phe
 355 360 365
 Gly Ile Ala Met Lys Lys Gly Ile Gly Ser Val Asn Ser Asn Asn Gln
 370 375 380
 Arg Ile Phe Asp Thr Asp Ile Ile Val Tyr Arg Tyr Ala Asp Val Leu
 385 390 395 400
 Leu Met Met Ala Glu Ile Glu Asn Ala Leu Ser Gly Lys Cys Ala Asn
 405 410 415
 Tyr Val Asn Glu Val Arg Lys Arg Ala Tyr Gly Lys Asn Trp His Pro
 420 425 430
 Gln Phe Ala Tyr Thr Asp Gly Ser Tyr Ala Asp Asn Glu Leu Thr Ile
 435 440 445
 Leu His Glu Arg Asp Lys Glu Phe Val Trp Glu Gly Lys Arg Trp Phe
 450 455 460
 Asp Val Val Arg Met His Asp Ala Asn Gly Lys Ser Leu Ala Phe Ser
 465 470 475 480
 Val Ala Ala Asn Tyr Pro Asn Asn Glu Thr Pro Asp Glu Arg Val Pro
 485 490 495
 Leu Ile Lys Glu Ser Glu Ala His Lys Leu Leu Trp Pro Ile Asp Val
 500 505 510
 Asn Thr Leu Asn Asn Asp Pro Lys Leu Glu Gln Thr Pro Gly Tyr Asp
 515 520 525
 Lys

<210> 9535
 <211> 173
 <212> PRT
 <213> B.fragilis

<400> 9535
 Ser Phe Met Ile Ile Leu Ile Ala Gly Asp Thr His Thr Gly Lys Thr
 1 5 10 15
 Ile Leu Ala Gln Lys Leu Leu Glu Lys Tyr Lys Tyr Pro Tyr Leu Ser
 20 25 30
 Ile Asp His Leu Lys Met Gly Leu Ile Arg Ser Gly Gln Cys Lys Leu
 35 40 45
 Ser Ala Asp Ser Asn Asp Met Glu Leu Thr Asn Tyr Leu Trp Pro Ile
 50 55 60
 Val Arg Glu Met Ile Lys Thr Cys Ile Glu Asn Ser Gln Asn Met Ile
 65 70 75 80
 Ile Glu Gly Cys Tyr Ile Pro Phe Asp Trp Glu Lys Asp Phe Thr Asn
 85 90 95
 Glu Tyr Met Lys Gln Ile Gln Tyr Ile Cys Leu Ile Phe Ser Gln Glu
 100 105 110

Tyr Ile Lys His Asn Phe Gln Asn Ile Leu Lys Tyr Glu Asn Ile Ile
 115 120 125
 Glu Lys Arg Gln Ser Thr Asp Leu Ile Phe Glu Asp Ile Ser Lys Thr
 130 135 140
 Asn Lys Tyr Asn Leu Glu Gln Cys Ile Ser Arg Lys Tyr Asn Tyr Ile
 145 150 155 160
 Leu Ile Asp Lys Asp Tyr Leu Ile Asp Thr Asp Asp Ile
 165 170

<210> 9536

<211> 1118

<212> PRT

<213> B.fragilis

<400> 9536

Thr Ser Leu Leu Leu Thr Gln Ala Ile Leu Met Lys Lys Thr Ile
 1 5 10 15
 Phe Leu Ile Leu Cys Ile Leu Cys Ser Leu Gly Ala Met Ala Gln Lys
 20 25 30
 Lys Ser Ile Thr Gly Val Val Thr Asp Ala Ser Gly Glu Ser Val Ile
 35 40 45
 Gly Ala Ser Val Val Glu Val Gly Thr Thr Asn Gly Val Ile Thr Asp
 50 55 60
 Ile Asp Gly Lys Phe Thr Leu Ser Val Asp Pro Asn Gly Lys Ile Lys
 65 70 75 80
 Val Ser Phe Val Gly Tyr Gln Pro Gln Thr Ile Asp Val Lys Gly Lys
 85 90 95
 Gly Ser Phe Asn Ile Gln Leu Lys Glu Asp Ser Glu Met Leu Glu Glu
 100 105 110
 Val Val Val Thr Gly Tyr Gly Lys Gln Leu Arg Thr Lys Val Thr
 115 120 125
 Asn Ser Ile Ala Lys Val Lys Glu Glu Thr Leu Lys Gln Gly Met Phe
 130 135 140
 Thr Asn Pro Ala Gln Ala Leu Ser Gly Ala Val Ala Gly Leu Ser Val
 145 150 155 160
 Ser Gln Thr Ser Gly Asn Pro Gly Ser Ala Pro Thr Leu Val Leu Arg
 165 170 175
 Gly Gly Thr Asn Phe Asp Gly Ser Gly Ser Pro Leu Ile Leu Ile Asp
 180 185 190
 Gly Gln Val Arg Ser Ser Leu Ser Asp Ile Asn Pro Asp Asp Ile Glu
 195 200 205
 Ser Met Glu Val Leu Lys Asp Ala Gly Ala Thr Ala Ile Tyr Gly Ala
 210 215 220
 Arg Ala Asn Asp Gly Val Val Leu Val Thr Thr Lys Arg Gly Lys Ser
 225 230 235 240
 Gly Arg Ala Glu Val Asn Leu Lys Ala Lys Phe Gly Leu Asn Tyr Phe
 245 250 255
 Lys Asp Ser Tyr Asn Phe Met Asn Ala Gly Asp Tyr Leu Tyr Trp Met
 260 265 270
 Arg Thr Gly Tyr Met Asn Ala Tyr Val Gly Asp Met Lys His Pro Asp
 275 280 285
 Gly Ala Gly Ile Lys Gly Trp Ser Ser Leu Ser Gly Leu Thr Thr Ala
 290 295 300
 Thr Pro Tyr Gly Thr Gly Asn Leu Tyr Phe Asp Lys Asp Gly Val Thr
 305 310 315 320
 Pro Leu Asp Gly Asn Lys Thr Ser Ser Ala Ile Trp Ser Pro Met Leu
 325 330 335
 Tyr Ser Asp Asn Leu Ser Phe Leu Leu Asp Gln Gly Trp Gln Thr Met
 340 345 350

Ile Asp Pro Ile Tyr Gly Asp Lys Ile Ile Tyr Lys Asn Thr Asn Ile
 . 355 360 365
 Ala Asp Phe Asn Ile Asn Thr Pro Ser Phe Ser Gln Asp Tyr Asn Leu
 . 370 375 380
 Ser Val Ser Gly Gly Asn Asp Lys Gly Asn Tyr Tyr Ala Gly Leu Gly
 385 390 395 400
 Tyr Asn Lys Ser Glu Gly Thr Ala Val Gly Asn Trp Tyr Gln Arg Ile
 . 405 410 415
 Thr Phe Thr Phe Asn Ala Asp Tyr Lys Leu Lys Glu Trp Leu Thr Ser
 . 420 425 430
 Asn Ser Ser Phe Asn Phe Ala Asp Ala Thr Trp Asn Gly Leu Pro Ala
 . 435 440 445
 Ser Gln Thr Ala Glu Ala Asn Tyr Phe Ser Arg Cys Leu Ser Leu Pro
 . 450 455 460
 Pro Thr Phe Arg Gly Tyr Asn Ala Asp Gly Asp Met Leu Leu Gly Pro
 . 465 470 475 480
 Asn Ser Gly Asp Gly Asn Gln Gln Tyr Asn Phe Lys Gln Phe Val Arg
 . 485 490 495
 Asp Asn Asn Thr Asp Lys Phe Thr Met Asn Gln Ser Phe Thr Ile Asp
 . 500 505 510
 Phe Met Lys Gly Leu Ser Leu Lys Leu Gly Ala Ile Trp Tyr Tyr Ser
 . 515 520 525
 Glu Glu Lys Thr Glu Ala Phe Asn Lys Asp Tyr Leu Ser Ser Pro Gly
 . 530 535 540
 Asn Leu Ile Thr Ser His Ser Thr Ser Ala Ser Tyr Ala Arg Thr Leu
 . 545 550 555 560
 Asp Gln Thr Tyr Asn Ala Val Leu Asn Tyr Asn Tyr Gln Ile Asn Lys
 . 565 570 575
 Asp Asn Phe Leu Asp Ala Met Val Gly Phe Glu Tyr Tyr Asp Ser Tyr
 . 580 585 590
 Ser Lys Gly Phe Ser Ala Ser Gly Ser Gly Ala Pro Thr Asp Asp Phe
 . 595 600 605
 Met Asp Leu Glu Tyr Thr Ser Lys Glu Glu Gly Lys Arg Ser Ile Asp
 . 610 615 620
 Ser Ser His Ser Arg Gln Arg Ile Met Ser Phe Phe Gly Arg Val Asn
 . 625 630 635 640
 Tyr Asp Tyr Gln Ser Lys Tyr Leu Leu Ser Leu Val Leu Arg Arg Asp
 . 645 650 655
 Gly Tyr Ser Lys Leu Ala Glu Glu Asn Arg Trp Gly Val Phe Pro Gly
 . 660 665 670
 Val Ser Ala Gly Trp Val Phe Ser Lys Glu Glu Phe Met Lys Asn Thr
 . 675 680 685
 Ala Ser Ile Leu Ser Phe Gly Lys Leu Arg Ala Ser Phe Gly Leu Asn
 . 690 695 700
 Gly Asn Val Asn Lys Asn Phe Val Gly Asn Tyr Thr Val Gln Gly Ala
 . 705 710 715 720
 Tyr Gly Ser Asn Arg Tyr Asn Gly Ser Thr Gly Phe Leu Leu Ser Ser
 . 725 730 735
 Ile Pro Asn Pro Tyr Leu Met Trp Glu Lys Ser Arg Thr Phe Glu Val
 . 740 745 750
 Gly Leu Asp Met Gly Phe Leu Glu Asn Arg Ile Asn Ala Asn Leu Thr
 . 755 760 765
 Tyr Tyr Asn Arg Leu Thr Ser Asp Lys Tyr Ala Asn Ile Thr Val Pro
 . 770 775 780
 Ser Thr Ser Gly Val Ser Ser Val Thr Ser Asn Asn Gly Glu Phe Gln
 . 785 790 795 800
 Asn Gln Gly Phe Glu Phe Glu Leu Gly Phe Arg Ile Ile Asp Ala Lys
 . 805 810 815
 Asp Trp Lys Trp Asn Leu Asn Trp Asn Gly Ala Leu Asn Lys Asn Lys

820	825	830
Val Val Ser Leu Pro Asp Asn Gly	Leu Glu Arg Asn Arg	Gln Ser Ala
835	840	845
Tyr Gln Val Tyr Thr Gly Asn Gly Asp Glu Lys Lys	Trp Val Gly Gly	
850	855	860
Tyr Gln Glu Gly Gln Arg Pro Gly Asp Leu Tyr Met Phe	Val Ala Glu	
865	870	875
Gly Leu Tyr Lys Ser Gln Asp Glu Ile Pro Ala Asn Leu Ile	Asp Leu	
885	890	895
Thr Thr Gly Asn Asn Gly Ser Ser Gly Arg Pro Leu Tyr Gly	Gly Thr	
900	905	910
Glu Gly Tyr Asn Lys Leu Thr Asp Ser Gln Lys Ser Asn Ala	Leu Pro	
915	920	925
Ile Gln Pro Gly Asp Val Lys Trp Lys Asp Val Asn Asn Asp	Gly Val	
930	935	940
Ile Asp Asn Tyr Asp Met Val Lys Val Gly Asn Thr Val Pro	Lys Trp	
945	950	955
Thr Gly Gly Ile Asn Thr Thr Val Ser Trp Lys Asp Leu Thr	Leu Ser	
965	970	975
Ala Arg Phe Asp Tyr Ala Leu Gly Phe Thr Ala Val Asp Trp	Lys Thr	
980	985	990
Met Trp Ile Met Ser Cys Ala Gln Gly Thr Tyr Asn Thr Ile	Glu Glu	
995	1000	1005
Thr Lys Asn Thr Trp Thr Pro Glu Asn Pro Asn Ala Lys Tyr	Pro Thr	
1010	1015	1020
Tyr Val Trp Ala Asp Gln Leu Gly Lys Arg Asn Tyr Cys Arg	Ser Ser	
1025	1030	1035
Ser Met Phe Ala Tyr Asn Gly Asn Tyr Ile Ala Leu Arg Glu	Leu Ser	
1040		1055
1045	1050	
Leu Ser Tyr Lys Leu Pro Ser Ile Leu Val Gln Lys Ala Lys	Leu Ser	
1060	1065	1070
Asn Val Glu Leu Ser Ile Thr Gly Gln Asn Leu Gly Tyr Leu	Thr Glu	
1075	1080	1085
Ala Lys His Leu Phe Ser Pro Glu Lys Ala Asp Asn Asn Gly	Gly Tyr	
1090	1095	1100
Pro Leu Pro Arg Thr Val Ile Phe Gly Ile Asn Val Ser Phe		
1105	1110	1115

<210> 9537

<211> 1102

<212> PRT

<213> B.fragilis

<400> 9537

Thr Ser Leu Leu Leu Thr Gln Lys Ala Ile Leu Met Lys Lys	Thr Ile		
1	5	10	15
Phe Leu Ile Leu Cys Ile Leu Cys Ser Leu Gly Ala Met Ala	Gln Lys		
20	25	30	
Lys Ser Ile Thr Gly Val Val Thr Asp Ala Ser Gly Glu Ser	Val Ile		
35	40	45	
Gly Ala Ser Val Val Glu Val Gly Thr Thr Asn Gly Val Ile	Thr Asp		
50	55	60	
Ile Ser Gly Lys Phe Thr Leu Met Val Asp Pro Asn Gly Lys	Ile Lys		
65	70	75	80
Val Ser Tyr Val Gly Tyr Gln Pro Gln Val Leu Asp Val Lys	Gly Lys		
85	90	95	
Asn Ser Phe Asn Ile Lys Leu Lys Glu Asp Ser Glu Met Leu	Asp Glu		
100	105	110	
Val Val Val Thr Gly Tyr Gly Lys Gln Leu Arg Thr Lys Val	Thr		

115	120	125
Asn Ser Ile Ser Lys Val Lys	Glu Glu Ala Leu Lys	Val Gly Leu Phe
130	135	140
Ser Asn Pro Ala Gln Ala	Leu Ser Gly Ala Val	Ala Gly Leu Lys Val
145	150	155
Thr Gln Ala Ser Gly Ser	Pro Gly Ala Thr	Pro Thr Ile Val Leu Arg
165	170	175
Gly Gly Thr Asn Leu Asp Gly Ser	Gly Ser Pro Leu Val	Met Ile Asp
180	185	190
Gly Gln Leu Arg Asp Gly Leu Asn Asp	Ile Asn Pro Glu Asp	Ile Glu
195	200	205
Ser Met Glu Val Leu Lys Asp Ala	Gly Ala Thr Ala	Leu Tyr Gly Ala
210	215	220
Arg Ala Ser Asn Gly Val Ile	Leu Val Thr Thr	Lys Asn Gly Lys Ala
225	230	235
Gly Tyr Arg Glu Ile Asn Phe Lys Ala	Lys Leu Gly Val	Asn Tyr Val
245	250	255
Asn Asn Pro Tyr Glu Phe Leu Gly	Gly Glu Asp Tyr	Ile Asn Val Leu
260	265	270
Arg Thr Thr Tyr Ala Lys Ser Gly	Tyr Tyr Cys Ser Asp	Gly Glu Tyr
275	280	285
Val Ser Ile Ala Pro Leu Thr Asn Leu	Thr Gly Ala Ser	Pro Phe Gly
290	295	300
Thr Gly Asn Val Leu Gly Lys Ser Ala	Trp Asn Ile Met	Gly Lys Thr
305	310	315
Ala Asp Asn Ala Tyr Leu Leu Gln Lys	Gly Trp Lys Glu	Met Val Asp
325	330	335
Pro Leu Asp Pro Ser Asn Met Ile	Ile Tyr Lys Asp Ile	Asn Pro Gly
340	345	350
Asp Tyr Asn Leu Asn Asn Pro Ser	Leu Ser Gln Asp	Tyr Asn Ile Asn
355	360	365
Met Ser Gly Gly Asn Asp Arg	Gly Ser Tyr Tyr	Ala Gly Ile Gly Tyr
370	375	380
Asn Arg Gln Glu Gly Leu Pro Val	Ser Thr Phe	Tyr Glu Arg Tyr Ser
385	390	395
Phe Val Leu Asn Ala Ser Tyr Lys	Ile Thr Asp Trp	Leu Thr Ser Thr
405	410	415
Ser Asn Phe Asn Tyr Asn Arg Ala	Asn Trp Lys Asn Met	Pro Gly Ser
420	425	430
Asn Thr Ser Glu Gly Asn Tyr	Phe Gly Arg Ile	Met Ser Thr Pro Pro
435	440	445
Thr Ser Arg Phe Glu Asp	Glu Asp Gly Asn	Pro Thr Leu Gly Pro Asn
450	455	460
Val Ala Asp Gly Asn Gln Ala	Phe Gln Pro Glu	Lys Trp Gln Asn Phe
465	470	475
Asn Gln Thr Asp Lys Phe Thr	Met Ile Gln Gly	Phe Gln Ile Asp Ile
485	490	495
Met Lys Gly Leu Phe Ile Lys	Gly Thr Ala Asn Trp	Tyr Ser Glu
500	505	510
Gly Leu Tyr Glu Ser Phe Thr	Lys Asp Tyr Met	Asp Asn Met Leu Thr
515	520	525
Glu His Tyr Thr Lys Thr Arg	Glu Ser Thr Ala	Lys Phe Glu Arg Asn
530	535	540
Phe Ala Gln Thr Tyr Asn Ala Val	Leu Asn Phe	Thr Arg Thr Phe Ala
545	550	555
Ile Asp His Asn Val Asn Leu	Met Leu Gly	Met Glu Tyr Tyr Asp Asn
565	570	575
Tyr Lys Arg Gly Phe Glu Ala Lys	Gly Ser Gly Ala	Pro Thr Asp Asp
580	585	590

Phe Ser Asp Leu Ser Leu Thr Asp Asn Gly Glu Gly Lys Arg Thr Ile
 595 600 605
 Asn Ser Trp His Glu Gln Tyr Arg Ile Leu Ser Tyr Phe Gly Arg Leu
 610 615 620
 Asn Tyr Asp Tyr Lys Gly Arg Tyr Leu Val Ser Ala Val Phe Arg Gln
 625 630 635 640
 Asp Gly Tyr Ser Ser Leu Leu Gly Asp Asn Arg Trp Gly Phe Phe Pro
 645 650 655
 Gly Val Ser Ala Gly Trp Ile Phe Gly Gln Glu Ser Phe Ile Lys Glu
 660 665 670
 Ser Leu Pro Phe Leu Ser Phe Gly Lys Leu Arg Ala Ser Tyr Gly Val
 675 680 685
 Asn Gly Asn Ala Ser Gly Ile Gly Ala Tyr Thr Leu Gln Gly Ser Tyr
 690 695 700
 Asn Thr Ala Val Tyr Asn Thr Gly Phe Leu Ile Gly Ser Leu
 705 710 715 720
 Pro Asn Pro Gly Leu Arg Trp Glu Lys Thr Lys Thr Ala Glu Val Gly
 725 730 735
 Met Asp Leu Ser Phe Leu Glu Asn Arg Leu Asn Ala Asn Phe Thr Tyr
 740 745 750
 Tyr Asn Arg Leu Thr Ser Asp Lys Tyr Ala Asp Phe Ser Leu Pro Ser
 755 760 765
 Thr Thr Gly Phe Ser Ser Ile Lys Asn Asn Gly Lys Phe Arg Asn
 770 775 780
 Ser Gly Val Glu Ile Glu Leu Ser Gly Lys Ile Leu Lys Thr Lys Asp
 785 790 795 800
 Trp Ser Trp Glu Ala Ser Ala Asn Ile Ser Phe Asn Lys Asn Lys Val
 805 810 815
 Val Ala Leu Pro Glu Asn Gly Leu Asp Leu Asn Arg Gln Gly Gln
 820 825 830
 Gln Ile Tyr Thr Gly Lys Gln Leu Ala Asp Gly Thr Tyr Glu Lys Lys
 835 840 845
 Trp Val Gly Gly Tyr Gln Glu Gly Gln Glu Pro Gly Val Leu Val Val
 850 855 860
 Tyr Lys Ser Asp Gly Ile Tyr Arg Ser Trp Asp Glu Ile Pro Gly Asp
 865 870 875 880
 Leu Val Ile Thr Ser Gly Asn Tyr Phe Gly Lys Lys Met Tyr Gly Pro
 885 890 895
 Asp Ala Trp Lys Lys Leu Thr Lys Glu Gln Gln Lys Asn Ala Leu Pro
 900 905 910
 Ile Met Pro Gly Asp Met Lys Trp Lys Asp Ile Asn Gly Asp Lys Ile
 915 920 925
 Ile Asp Ser Tyr Asp Gln Val Val Ala Gly Asn Thr Ser Pro His Trp
 930 935 940
 Ile Gly Gly Phe Asn Thr Thr Leu Arg Trp Lys Asn Phe Gln Leu Tyr
 945 950 955 960
 Gly Arg Phe Asp Phe Ala Leu Asp Tyr Trp Ile Tyr Asp His Thr Leu
 965 970 975
 Pro Glu Ile Phe Leu Ala Cys Ala Gln Gly Thr Tyr Asn Thr Thr Lys
 980 985 990
 Glu Val Phe Asn Thr Trp Ser Asp Glu Asn Pro Asn Ala Lys Tyr Pro
 995 1000 1005
 Arg Tyr Ala Tyr Ala Asp Val Leu Thr Asn Ala Asn Tyr Ala Arg Asn
 1010 1015 1020
 Ser Thr Met Phe Ala His Lys Gly Asn Tyr Leu Ala Ile Arg Glu Ile
 1025 1030 1035 1040
 Ser Leu Ser Tyr Ser Leu Pro Lys Val Trp Ala Asn Lys Ala Tyr Cys
 1045 1050 1055
 Gln Arg Val Asp Val Ser Ile Thr Gly Gln Asn Leu Gly Tyr Ile Thr